# The Bristol Medico-Chirurgical Journal.

*"Scire est nescire, nisi id me*
*Scire alius sciret."*

JUNE, 1903.


## MOBILITY.[1]


BY

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THE kind invitation to spend an evening with you was gladly accepted, because I am a firm believer in intellectual communism. I trust that "I grow old learning things," and I am here to-night in the quest of further knowledge.

I trust that we are all book lovers, but if we are true to ourselves we will readily acknowledge that books are not everything. Books doubtless have their uses: books have also their limitations. The constant reliance on printed matter tends to onesidedness. Personal intercourse—wit sharpening wit—is, to my mind, the most important factor in true education. The kindergarten with its pleasures—the sugar-candy on Wednesdays—the absence of pain—is the essence of what is best in education. I am not prepared to go the length of a great

[1] An Address given at a special meeting of the Bristol Medico-Chirurgical Society, held on May 20th, 1903.

thinker, that a child is only to be taught what he wishes to learn, but I am of opinion that the essence of education is to find out what a child wishes to know, and teach him that. Knowledge is a mental ferment; as it grows it increases a desire for more knowledge.

I have been a teacher for a good many years, and each year I feel more and more the need of a resting time—resting, not in the sense of idleness, but in a change of work, the only true rest—a change of locality, a change of scene and of surroundings. I verily believe that a time will come when every teacher will be turned periodically adrift and compelled to wander, like the peripatetic philosophers, on the face of the earth, and speak to and learn from (he cannot do the one without the other) his neighbour, if possible to do good and certainly to get good from his neighbours, face to face, giving them his enchiridion, receiving from them their enchiridion. I use the word "neighbour" in the sense of the poor man whose good fortune it was to fall into the hands of the good Samaritan: that parable read in the widest sense surely means that we all require help—a helping hand. We have all fallen amongst thieves, such as Parochialism, with its foster-sisters, Self-sufficiency and Narrowness, in the main due, from the standpoint of the teacher, to constantly addressing an audience always changing as regards the individual, and always the same as regards the outlook—an audience whose main standpoint necessarily is the examination test, that mist which hampers teacher and taught. As the picture without atmosphere, so is the lecture with a limited horizon, bounded by the benches of the examination hall.

A visit such as this does me a world of good, takes me out of myself, dispels these thoughts, disarms these thieves, removes mental stagnation and psychical paresis: you are in very deed good Samaritans. I am deeply grateful, my message is one of thankfulness. However little I can say, may I say it reverently, knowing well that its very imperfection is its chief value, acting as a stimulus to my hearers.

Many changes have taken place since I gave my first course of lectures on surgery. I have tried to follow these changes, and have endeavoured to form a just conclusion as regards

their benefits. I am not going to compare the surgery of 1870 with the surgery of to-day, nor can I even indicate my steps and stumbles, nor the men who have influenced me and inspired me—my heroes. May I in this city, however, say of one of my heroes how highly I esteemed the friendship of Greig Smith, and how deeply I mourned his early death, and the loss to surgery and to his friends;—another example of that ever-present thought that we often appear to lose those whom we think we can least afford to lose: their works remain after them, and they and we are taken in their and our good time. We take comfort that "great things done endure."

I am well aware that my presence here to-night is mainly due to the position which I hold in the medical school in the grey metropolis of the north; but still I also know that there is a personal element in your kind invitation, and I trust I will be excused if I say a word on my personal views regarding some important practical points in the borderland, where the work of the general surgeon closely approaches the work of the general practitioner. It is always well to study dying-out races, decaying species: the few remaining buffaloes in America are interesting, and well worthy of our keenest observation. If I can read the times, we, the general surgeons and the general practitioners, will soon be displaced from our pride of place. As I have sometimes said, the aurists and laryngologists working down from above, the gynæcologists working up from below, leave us stranded on the umbilicus, trying to eke out a bare existence on the scanty herbage, and thankful for the crumbs which fall from the rich man's table. Let me then state shortly some of my beliefs regarding an important group of cases which come immediately under the care of the general practitioner, and in which the general surgeon may be consulted; cases which, if care is not taken, may ultimately pass into the hands of those who are often called irregular—I prefer the term irresponsible—practitioners.

Let us consider together *recent subcutaneous injuries of Bones and Joints; Sprains, Dislocations, and Fractures.* I have chosen this subject because of its deep practical importance, and because at the present time, if I may be permitted to try and read the

signs of the times, a great question has to be considered. Is rest the *summum bonum* in the treatment of these injuries? As far as I can judge, it is being discredited, and physiological movement is striving to take its place. Is it the case that stagnation of the venous and lymphatic flow in the injured part is the *great obstacle* to repair? Is it true that rest is an evil thing because it encourages this stagnation, that movement is a good thing because it removes this stagnation? Physiological activity can be induced by rubbing, and by voluntary muscular movements which both act by encouraging the blood and lymph-flow through the tissues. Passive movements are not in any sense, equivalent to, or to be compared to, voluntary movements. It is to these questions that I would ask your attention: about them there may be much difference of opinion, hence their value as a stimulus, as a fit subject for discussion.

How is a recent sprain—say, of the ankle joint—treated? Fomentations sprinkled with laudanum, and complete rest in bed, used to be in all, and still is in the hands of many, the orthodox treatment. After a time, varying with the severity of the accident, a starch bandage displaces the fomentation, the sofa takes the place of the bed. The result, as a rule, is a swollen, stiff, and often painful joint and a tedious convalescence. The fear was, and still is, inflammation; and in the background there was, and is, the dread of tubercle attacking the injured part: to avoid these evils, rest the joint.

We now know that inflammation, in the clinical sense, is not due to movement, but is due to organisms and their toxins; we also know that tubercle is due to a special bacillus; we also know that a free circulation through the injured part, instead of being an encouragment, is an obstacle to the deposit of organisms; the higher the physiological activity, the less the risk of organismal infection. We further know that the paresis of the blood-vessels, and the stagnation of the blood stream, and the extravascular effusion into the tissues, encourage, not only the primary deposit, but the secondary multiplication in the tissues. Sprains treated in the way described have been the happy hunting-ground of the bone-setter. The patient gets tired: he has kindly friends who advise him, and he slips

away to the bone-setter, who, by a twist, breaks down an adhesion and restores him to sudden usefulness. It is not to this aspect of the question to which I to-night direct attention. I desire to speak of *recent injuries and their treatment.* I don't speak of the evil results of too prolonged rest and their treatment. May I, however, say one word. Don't be afraid of movement in stiff joints of a chronic character, and of a traumatic origin. Break down adhesions, and after they are broken down don't let the patient rest and get stiff again. Find out the tender spot. Find out the movement that causes pain. Relax the tender tissue by position, and, fixing the painful spot with the thumb of one hand, suddenly perform that movement which will forcibly stretch, or tear, or break down the adhesion. Remember this, that a rotatory movement in ball and socket joints is most valuable; and, lastly, leave tubercular joints alone. Excuse this short digression. Let me return to the recent sprain, and indicate another line of treatment. (1) elastic pressure to prevent effusion, and to encourage the removal of any effusion which has taken place; (2) rubbing night and morning, begun at once; (3) voluntary movement as soon as possible: all these means are to be used with one object, namely, restoration as soon as possible, of a normal circulation of blood and lymph through the injured part; in other words, physiological activity. N.B.—The elastic pressure must be so used that there will be no interference with the circulation, which is the essential to rapid recovery. This method of dealing with sprains has many advocates. I have used it for twenty years, with one exception. Passive movement has had with me too prominent a place. I have only recently appreciated the value of voluntary movements, and recognised that passive movements are not an equivalent.

As with sprains so with *dislocations.* Prolonged rest is not now considered by many an essential after reduction; rubbing and gentle voluntary movements have taken its place. Care must, of course, be taken to avoid that movement which causes the head of the dislocated bone to press on that part of the capsule of the joint which gave way when the dislocation occurred. For example, we avoid flexion at the hip-joint in

dislocation backwards of that part; we avoid abduction of the arm in dislocation at the shoulder-joint. Gentle voluntary movements in other directions are perfectly justifiable after a week of rubbing.

We now come to more debateable ground. Are we to apply the same principles to all *simple fractures?* Lucas-Championnière in France, and Wharton Hood in this country, emphatically say "Yes"; and I think that gradually their views are gaining ground. One cannot but wish that Lucas-Championnière's work[1] was more generally known to practitioners in this country: many less useful books have passed through the translator's hands. There can be no doubt that in 90 per cent. of the fractures which take place in Great Britain, the practitioner who has to treat them fears movement. My friend, Lucas-Championnière, says: "Le mouvement c'est la vie." I have for long held that as the ribs, which are never at rest, heal rapidly after fracture, we need not be so afraid of movement. It has also to be noted that, in my opinion, the best way to treat a transverse fracture immediately above the condyles of the humerus is by gently binding the arm in the fully flexed position to the constantly-moving chest-wall. Possibly the constant movement of the chest-wall is practically a form of rubbing. Certainly in neither case has the patient any discomfort from the gentle movement. I have not yet given up all splints: I may come to that as I gain experience. My view at present in the treatment of fractures is, no interference with the circulation through the injured part; gentle elastic pressure; appropriate splints to steady the part; splints so arranged that they can be easily removed for a daily rubbing. Begin with a gentle rubbing when you are first called to a case. This rubbing is applied as in sprains, beginning on the proximal side of the seat of injury and rubbing in the direction of the venous and lymphatic flow, gradually coming down over the seat of the injury. During the rubbing the fracture is steadied by the other hand of the rubber, or, if both hands of the rubber are used, an assistant must steady the fracture; and, lastly, very gentle voluntary movements are

[1] Traitement des Fractures par le Massage et la Mobilisation, Paris, 1895.

encouraged after the first week, the fracture being steadied during their performance. These voluntary movements are of infinitely more value than passive movements. I gladly welcome this distinction, because I have long taught that the act, say, of flexion, cannot be performed without an efficient extensor, in other words, both flexion and extension are necessary and essential. If I flex the forearm of another person, I do not call into play his flexors, nor do I ask the help of his extensors; if I flex my own forearm voluntarily, I contract my flexors and elongate my extensors; and *vice versâ* when I extend my forearm I contract my extensors and elongate my flexors. When I abduct my arm from my side I contract my abductors and elongate my adductors; when I adduct my arm to my side I contract my adductors and elongate my abductors. In voluntary movements I call into play a complicated nervous mechanism which takes no part in passive movements. When, for example, in a fracture of the humerus I passively flex my patient's forearm, the least pain is at once a message to the triceps to contract reflexly in order to prevent the painful movement. If, however, I ask my patient voluntarily and gently to flex his forearm, promising him that I will fix the fracture and support the forearm, confidently telling him that he need not fear the pain, then his extensor muscle takes an intelligent part in, and assists the action; it does not act as an opponent as in a similar movement performed passively.

I beg cordially to acknowledge the help that Championnière and Wharton Hood have been to me personally. If anyone reads Wharton Hood's[1] book on the *Treatment of Injuries*, it will be observed that he dislikes passive movements as much as he loves voluntary movements. Everything on the limb must be arranged with a double object: (1) that it can be easily removed for the daily rubbing, and for the regulated voluntary movements; (2) that it, when applied, has not the slightest effect upon the free circulation through the limb. Remember the value of a many-tailed bandage which can be easily removed, and the necessity of plenty of elastic wadding. Always leave the limb beyond uncovered, so that one will at once by its

[1] Wharton Hood, *Treatment of Injuries*, 1902.

appearance judge of the integrity of the circulation through the injured part.

Rubbing and regulated voluntary movements are, in my opinion, to be welcomed in all subcutaneous injuries—sprains, dislocations and fractures. I must add a word of warning. To allow a patient to move a sprained ankle voluntarily does not mean that you are to allow him to bear his weight upon the limb: with crutches he can do it gently and gradually; and, as he gets more and more confidence, he will increase the range of movement, and the amount of weight he bears on the limb. So in fractures of the lower extremity, he must not bear his full weight on the limb until union has taken place. During the consolidation of the fracture the muscles are rubbed, and gentle, regulated, voluntary movements are steadily persevered with, and when the union is complete the limb is ready for the act of progression.

As we all know, the persistent inability to use the limb, after union of a fracture of either extremity, is due to the matted and wasted muscles: all this is got rid of if we follow Championnière and Wharton Hood's teaching. Our patients will be ready to use their limb as soon as consolidation of the fracture has taken place. The consolidation takes place as a rule at an earlier period than in a limb treated by complete rest.

Don't fear the pain, it is diminished by the rubbing; and the voluntary movements of the patient are accompanied by little pain if the fracture is steadied by the hands of the surgeon or an attendant, or by the patient himself when he makes the movements. Any pain that takes place is not an obstacle to the movement so long as the pain is not due to the fragments of the bone moving on one another. I am giving these views a fair trial in my practice: they appeal to my psychological instincts; they are in accordance with the treatment that I have used in sprains, dislocations, and in fractures near joints—such as Colles's—for twenty years; and I do not hesitate to ask for them from you careful consideration in all fractures, and, if you see fit to give them a trial in your daily work, I don't think you will be disappointed.

When I think of the value of a free circulation through a part,

I always think of the suction power of a Sprengel pump. Mr. Charles Cathcart has done much for urinary surgery and bladder drainage by applying this principle. May I add that it is also of great value in empyema. How all-present and all-powerful is this principle in our vascular and lymph channels, and in our tissues, which are a sponge: filled with fluid, the fluid in health in constant motion. Any current passing an opening sucks through the aperture the contents of the space beyond: the greater the current the greater the suction.

Let me illustrate my meaning by an example: Why does varicocele occur on the left side? The answer is, because the right spermatic vein opens into the vena cava, the left into the renal vein, and because the suction by the vena cava is infinitely greater than the suction by the renal vein: the greater the current the greater the suction.

So also the rush of blood through the common femoral vein empties the long saphenous vein; so also the short saphenous is emptied by the current through the popliteal vein. Varicose veins are primarily traumatic. A valve is injured in the long saphenous or short saphenous, and the common femoral or popliteal, as the case may be, has too much to do; it cannot empty the superficial vein—the vein gradually dilates, and the neighbouring valves become incompetent; the disease becomes permanent. Varicose veins fill from above, not from below; in other words, the current, if any, is from the deep into the superficial vein; the flow is in an abnormal direction. This, in my opinion, is the way in which rubbing acts in getting rid of the stagnating blood in the paresed vessels in an injured part: it is not by pressing the stagnating blood into the circulating area, but by causing an acceleration of the current in the surrounding veins whereby the blood stasis is gradually removed; therefore the rubbing is to be applied above the seat of injury, and in the direction of the venous and lymphatic flow. So also the regulated voluntary movements increase the blood-flow through the muscles, and thus each vessel in which there is a current acts as a Sprengel pump on the stagnant blood in the neighbourhood. Passive movements can never do this.

In the same way the lymph current acts on the lymph

radicles, and they in their turn on the lymph spaces; so also a distended cell element is emptied by the current passing along its walls. At the risk of being tedious, allow me one more illustration to explain my meaning: What is the essential difference between a pond and a river? The water in the pond soaks into the surrounding tissues, the water in the flowing river acts as a Sprengel pump and draws the fluid from the banks; the flow is from the pond, the flow is into the river. This explains the removal of the extravascular effusions from the tissues into the blood and lymph channels. Many look on rubbing as a means of mechanically driving back the effusions into the circulation; no doubt true in part, but not the main truth in estimating the value of rubbing. Look at the boiled lobster-like appearance of a limb after rubbing, an indication of the condition of the deeper parts; look at the accelerated circulation, and we see in that, in my opinion, the main means whereby the stagnant blood in the vessels and the effusions outside the vessels are removed. In a word, the results of every injury are paresis, stagnation, effusion. To get rid of these things (the main obstacles to repair) encourage a free circulation around and through the injured area by rubbing and by regulated voluntary movements, call on the nerves of the part to do their part of the work, avoid passive movements, and don't fear pain due to physiological movements. I have been irresistibly drawn to-night to speak to you of those things which are at the present time uppermost in my mind. I have applied these views to subcutaneous injuries, but we cannot stop there. An aseptic wound is a subcutaneous wound —from the beginning (I happened to be there) this was Lister's aim,—and it must be a question for all of us if open wounds, after all risks of reactionary hemorrhage have passed away, should not be treated on parallel lines. Should we not, after an operation—say, excision of the mamma—encourage gentle voluntary movements of the arm at the shoulder-joint? Should we not encourage the patient to take breathing exercises? Should we not remove the dressings to rub the tissues in the neighbourhood of the wound? After an amputation, should we not rub the limb above the wound, and encourage the patient, after a

few days, gently to contract his muscles to move his stump? But I must cease: the prospect leads one on. To dream dreams is pleasant and sometimes profitable; but as in treating a stricture of urethra by gradual dilatation—a form of movement, a variety of rubbing,—when we are in doubt as to whether one more bougie should be passed, it is a good rule to hold your hand; so I will not pursue the subject further, but have, I trust, said enough to make you think about it. As I said when I began, I came to Bristol to give a little and to get much, to hold communion with friends old and new. I have chosen a simple subject—a practical subject—which we can all ponder over. I want, like Goethe, "more light."

Tempted, perhaps, by the fact that there are present, as I am informed, undergraduates of the Bristol College, let me before I sit down take, for a moment, a wider outlook regarding our possibilities and our responsibilities. The younger the man, the greater the possibilities; the older the man, the greater the responsibilities. Age speaking to youth often utters a warning regarding false prophets. I would rather ask you—may I call you my *fellow-students?*—to cultivate true prophets. Six hundred years ago Roger Bacon said that ships would be driven by a machine, with only a pilot on board to steer them; that carriages would be driven by similar means at an incredible rate; and that flying machines would be the favourite method of progression. There are Roger Bacons amongst us to-day, but we do not see them. My prayer for the youth of this country is for clearer vision.

The crop of knowledge has not been reaped. As William Harvey says of the true philosopher, "All we know is still infinitely less than all that remains unknown." We are not the "stubble geese," as was said long ago by a teacher of Anatomy in Edinburgh. William Harvey also says: "Many things may be learned by an old man from a youth, by a person of understanding from one of inferior quality"; and if Harvey could say this, surely we can say it too. Young men see visions; old men dream dreams: both have their value and their inter-actions. From the advances that have been made since I commenced the

study of medicine, I am inclined to say that the crop is only sown, and that anyone now beginning his life-work in medicine is to be envied. The world is before him; the riddle has to be read; let him see to it that his possibilities become realities.

I read lately in a novel "there is always the man behind the minister." So there is the man behind the doctor, just as there is the man behind the patient; in other words, the mental factor in disease—a most enticing subject, and, as far as I can judge, one of increasing importance, for which I would ask your careful study and observation. A patient is not simply a pathological entity: his psychological peculiarities are often the outstanding feature in his case. Cultivate the man behind the patient; cultivate the man behind the doctor: by so doing we shall avoid stagnation and paresis. Have a hobby outside your daily work. The danger of stagnation is an ever-present one. The valley of the dry bones of the prophet Ezekiel is to be reckoned with in relation to all three aspects of man's nature —the physical, the intellectual, and the spiritual. It is a danger to the bee, hence a danger to the hive; a danger to the well-being of the leucocyte, hence a danger to the welfare of the universe.

We hear now-a-days a great deal about the consolidation of the British empire. This is not the place to discuss the relative merits of the various prescriptions recommended by many physicians. I will only say that I have heard it said, north of the Border, that if three doctors are called in, the patient is in a dangerous condition; if five take an *active* part in his treatment, his case is hopeless. It is the activity that is the danger. Let us take warning. For my part, I think at present of a greater empire—the Anglo-Saxon empire, with its common language, and, broadly speaking, its common ideals. On its strength depends the welfare of the world.

As I said regarding this, to me, happy visit to your ancient town, you have done me good, strengthening what Walt Whitman calls "the dear love of comrades." And remembering that what is good for the bee is good for the hive, I now say that I know nothing better for progress and happiness, as opposed to selfishness, than the yearly increasing intellectual communion—man meeting man—between this country and

America. "Speak to the boys," as my dear friend the late Dr. David Yandell said to me in the operating theatre in Louisville. My recent African experiences drive home the same lesson. I have now a large number of Boer students in my hospital clinique. Perhaps I may some day see Australasia, and there learn the same lesson as I have already learnt in America, Canada, and South Africa.

The empire of intellect overshadows even the Anglo-Saxon empire. To reap its full possibilities, would that we could go back to the condition when we had a universal language, "when the whole earth was of one language and one speech," when the brotherhood of man was a living reality. We lost it for our sins. A time will come when we will regain it, when we are more able to appreciate its true value; when wars and rumours of wars cease in the land; when we judge not, when we resist not; when we fully understand the full significance of faith, hope, and charity: the greatest of these is charity.

When I speak of faith, hope, and charity, I am at the meeting-place, the trysting-place, between Science and Religion. It has been said that medical men are often materialists. That is not my experience. They may not be theologians, but they are not materialists. There can be no antagonism between true science and true religion: they clash only when they are false. Their present antagonism is only another word for our ignorance. Our very imperfections necessitate antagonism.

As time goes on we shall see more clearly; the mists will gradually disappear. Towards that end—the lifting of the mist—let us, in the meantime, each add his little pebble to the cairn of human knowledge; and let us always remember that "little drops of water," "little grains of sand," "little deeds of kindness," are all-powerful in the unfolding of our race.

We cannot all be in the front rank. The rear-guard is often the salvation of the column. The universe has need of all men. It seems to me a sound, and certainly it is to me a comforting, philosophy which says to each of us:—

> "Do what you can, being what you are.
> Shine like a glow-worm if you cannot be a star.
> Work like a pulley if you cannot be a crane.
> Be a wheel-greaser if you cannot drive a train."

# THE INFLUENCE OF THE AURICLES ON THE PERCUSSION OF THE HEART.

BY

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THE influence of the auricles upon the position of the heart has hardly received from clinicians the attention its importance demands; and though the work[1] of Dr. Ewart, dealing with the recognition of enlargements of the left auricle by posterior percussion, has stimulated interest in this practical question, something still remains to be done. We are, indeed, familiar with the description of the morbid anatomy of the auricles in various diseases of the heart; but the part they play in modifying its percussion boundaries has been generally lost sight of. Perhaps the reason for this lies in the usual method of conducting a *post-mortem* examination, where opening of the chest involves disturbance of the relations of the organs.

No systematic attempt has apparently been made to ascertain the effect of enlargement of one auricle upon the other, or upon the heart as a whole; and it was with a view to obtain some information on this point that I carried out, some time ago, a large series of frozen sections in dogs, where the parts could be examined *in situ* without disturbance. A later opportunity was afforded me, through the kindness of my colleague, Professor Dixon, of examining a case of mitral disease in the frozen human subject by means of sections; and the result of both investigations, which I desire to record here, go to show that the auricles play a not unimportant part in modifying the relations of the heart.

In a paper published some time ago, on the use of posture in percussion of the cardiac area,[2] I showed that the organ was possessed of considerable mobility. The force of gravity,

[1] *Brit. M. J.*, 1899, ii. 1167. [2] *Ibid.*, 1898, i. 135.

acting in change of posture, brings about an alteration in its position. Thus, when the body is placed in the prone position the heart falls forward, and a larger area of its surface comes into contact with the anterior chest wall; and it is clear that the organ has not only a side-to-side movement, but one also in the antero-posterior plane. That it is considerable is proved by the action of such a minor force as gravity, and it is obvious that more powerfully-acting causes within the organ itself will produce an even greater result. During my investigations on the influence of gravity on the position of the heart, the effect of the dorsal posture of the animal sometimes differed in an interesting way. Instead of falling back towards the vertebral column, and its anterior surface becoming enveloped by the lungs, as is usual, the heart was sometimes found well forward, in contact with the front wall of the chest, a relationship associated with the prone position. The condition which interfered in this way with the effect of gravity was the distension of the auricular cavities, which had carried the anterior surface of the heart forward; and when this was prominent, it sufficed to bring a well-contracted ventricle close under the chest wall, as if death had taken place in the prone position.

The anatomical position of the left auricle has been the subject of some curious misconceptions. Some of the older writers, among whom was Walshe, asserted that it came into relation with the anterior chest wall, and might be revealed by pulsation in the third intercostal space on the left side. Dr. G. W. Balfour is still of opinion that pulsation in that site may be auricular, and finds support in it for his view that the systolic bruit heard in the pulmonary area in anæmia is due to regurgitation through the mitral orifice, and conducted to the surface by the dilated auricle. The erroneousness of this contention has been demonstrated, and it is now recognised that the auricle is placed deeply in the chest, though there still appears to be confusion in the minds of some recent writers, who seem disposed to believe, with Walshe, that "direct physical evidence of dilation of either auricle is only to be had by percussion [anteriorly] in the natural sites of those cavities."[1]

[1] *Diseases of the Heart*, 4th Edition, 1873, p. 325.

For a clear understanding of the effect of the auricle in displacing the heart, it will be necessary to allude to a few anatomical details.

The left auricle may be described as an expanded tube, formed by the junction of the right and left pulmonary veins, which enter from the root of the lung on either side. It is situate almost in the middle line, in front of the sixth, seventh, and eighth dorsal vertebræ, and is placed almost entirely behind the heart, forming the back part of that organ. It forms, according to Cunningham, a greater portion of the posterior wall of the auricular portion of the heart than the right auricle, the latter cavity, indeed, coming, to some extent, to the front, in connection with the right side of the base. The site of the left auricle is well brought out by an illustration in Spalteholz's work,[1] which shows it forming the posterior wall of the heart, with the pulmonary vein entering on either side. It is frequently assumed that the auricles are placed on either side of the heart, as indicated by their names; but the partition between the two auricles—septum atriorum,—instead of lying in an antero-posterior direction, forms the posterior wall of the right auricle; so that this cavity might as correctly be termed the anterior auricle, as it occupies a plane in front of the other which might not inaptly be named the posterior. This is well shown by one of Braune's sections, of which I reproduce a tracing. (Fig. 1.)

On the posterior wall of the left auricle the pulmonary veins open; and as these structures take part in the formation of the root of the lung, it is obvious that the back part of the auricle is the most fixed, and that any enlargement of it must necessarily take place in a forward direction. The posterior wall comes into close apposition to the œsophagus in front of the spinal column, a relationship which has made it possible for tracings of the auricle to be obtained by means of an air tampon passed down the gullet as far as the base of the heart. As a distended auricle can only expand in an anterior direction, it follows that the heart as a whole will be thrust forward in the same plane, and, as a result, the organ will be moved closer to the anterior chest-wall.

[1] *Handatlas der Anatomie.*

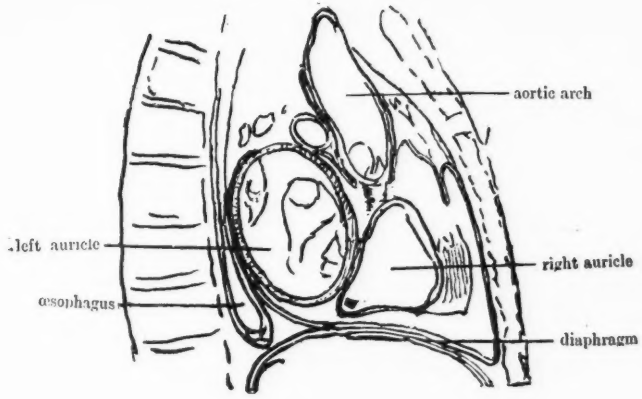


Fig. 1.

*Sagittal section of the chest, showing the right auricle lying in front of the left auricle (after Braune).*

In the movements of the heart observed in the open chest, the left auricle becomes swollen during systole, pushing the base of the ventricle before it as it comes forwards and descends, or, as it is expressed by Sibson, "the left auricle, being filled from behind forwards, lifts up and tilts forward the left ventricle at its auricular attachment." This movement forward will be greatly increased by an abnormal distension of the auricle, and will affect the whole heart rather than a portion. As it lies not only behind the left ventricle, but is also posterior to the right auricle, it will carry the right side of the heart forward as well; and the right auricle being frequently enlarged under the same conditions, the movement of the organ will be considerable, and will express itself by the anterior aspect flattening against the chest wall. Distension of both auricles will therefore contribute very materially to the increase of the cardiac dulness, and make it possible for them to considerably alter the percussion boundaries. It is usually assumed that extension of the cardiac dulness means general enlargement of the organ; but I think it is clear, both from the effects of posture and distension of the auricles, that alteration of the percussion area may take

place without any great enlargement of the heart, and mainly as a result of displacement.

Some time ago I investigated this question by means of frozen sections of the dog's chest. The animals, placed in various positions before being killed, were after death frozen, and sections made without disturbance of the parts. A large series of such sections went to prove that distension of the auricles with the animal in the dorsal position was sufficient, in some instances, to counteract the effect of gravity, and instead of the front of the heart receding from the chest wall and being overlapped by the lungs, the whole organ had been thrust forwards close under the ribs. With little or no auricular distension this forward displacement did not take place, and gravity came into play. In one animal, placed in the ventral position, the flattening of the cardiac surface was marked, aided largely by dilated auricles, whilst in a second, with these chambers small and contracted, the organ failed to reach the chest wall, and was enveloped by the lungs.

The value of ascertaining the exact relations of the auricles in disease of the mitral valve is, of course, very great; and I have been fortunate enough to have recently had an opportunity of examining, by the section method, the body of a man who had suffered from marked mitral obstruction and regurgitation. The cadaver was embedded in a freezing mixture, and transverse sections were made by my colleague, Professor Dixon. An examination of the heart showed the cusps of the mitral valve stiff and thickened, and the auriculo-ventricular ring hard and calcareous. The left auricle was dilated, and its wall hypertrophied, the right corresponding chamber being also much distended. There was a moderate degree of hypertrophy of the left ventricle, and the organs generally showed signs of chronic venous congestion.

One of the sections passing through the base of the heart exposed the highest point of the left auricle, whilst the section immediately below that cut through the lower part of the same chamber, intersecting the mitral valve, so that a close examination of the relations of the auricle was possible. In Fig. 2, which is a photographic tracing of the upper section seen from

above, the posterior situation of the auricle is brought out. It forms at this level the back wall of the heart, in front of the œsophagus and spinal column, whilst anterior to it lie the origins of the great vessels and the right auricle. This section measured 9 cm. transversely at the widest part, which was the left auricle, and antero-posteriorly the axis is 8 cm., of which 3 cm. is formed by that cavity. This chamber is considerably enlarged and dilated, with the muscular walls thickened. Its

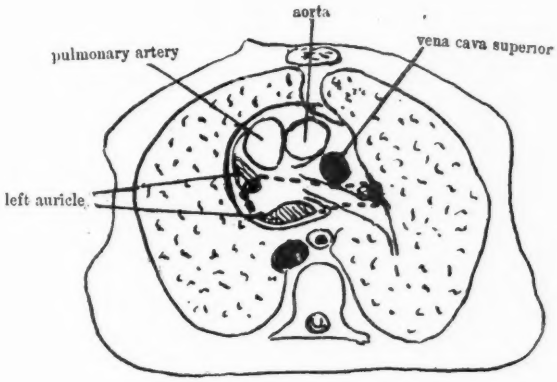


**Fig. 2.**

*Transverse section of human chest from a case of mitral stenosis, passing through the base of the heart and opening at two points the left auricle, the outline of which is represented by the interrupted line.*

interior is roughly pyramidal in form, the posterior wall being fixed and the anterior shelving forwards; so that the greatest depth of the cavity from before backwards is at the lower part, where it passes into the left ventricle through the mitral valve. From these relations I think it clear that any enlargement of the auricle must take place in a forward and downward direction.

In Fig. 3, in which the section passes through the mitral valve, the transverse diameter of the organ measures 12 cm., of which the greatly-dilated right auricle forms 5½ cm. The heart is placed almost wholly to the left of the middle line,

a position largely due, it will be observed, to the distension of the right auricle. It is likewise in close apposition to the chest wall, and part of the left lung bears an interesting relation to it. This is markedly compressed, and flattened into a thin, tongue-like process, which is fleshy and devoid of air. This result is

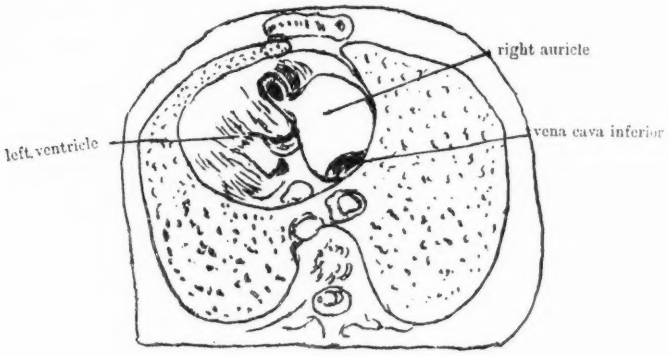


Fig. 3.

*Section from same case as last figure at the level of the mitral valve, showing the left lung compressed by displacement forward of the heart.*

explained by the existence of pleural adhesion, which has prevented recession of the lung before the advancing heart; and the compact, firm appearance of the pulmonary tissue is evidence of considerable forward pressure.

In the section below this, taken a little above the apex, the heart is in close contact with the chest wall, and flattened; and no part of the lung intervenes over the whole area.

I think it clear, from a study of these sections, that dilatation of the left auricle carries forward the base of the heart, and moves the whole organ downwards and forwards; that the right auricle assists this movement, and contributes a displacement to the left as well; whilst the general result is, to bring the heart into closer apposition to the chest wall and increase the area which may be revealed by percussion.

If we seek evidence from the experimental side, we shall find that the series of changes observed in artificial stenosis in

the open chest gives support to the same contention. When a ligature is placed around the aorta and gradually tightened, the heart enlarges, and advances towards the front wall of the chest. It is true that all the cavities increase in size; but the antero-posterior displacement is too great to be explained merely by ventricular enlargement, and there is no difficulty in determining that engorgement of the left auricle is an important factor in this movement. When the aorta is freed there is a marked recession of the organ, along with the shrinking of the auricles.

One of the most striking attributes of the heart is its power of adapting itself to changed conditions. Dilatation of the cavities occurs in purely physiological circumstances; that is to say, where the residual blood in the chambers of the heart at the termination of systole is above normal in amount. This physiological dilatation does not necessarily mean heart failure: it occurs frequently, and is quite recoverable from, within certain limits. When it is marked the heart will, of course, be pushed forward and flattened on the chest wall, presenting a larger surface to percussion, and giving the usual signs of increased cardiac area. These signs, usually associated with general pathological enlargements of the heart, may be brought out in some degree by dilatation of the auricles alone. Any relief to the auricles, by diminishing the residual blood and the consequent dilatation, will lessen this forward pressure and produce a recession of the heart, and the assumption of the round and more restricted shape.

From what has already been said, it is very probable that a comparatively small diminution of the auricle is sufficient to alter the percussion in a pronounced manner, inasmuch as the falling back of the organ will be followed by a return of the lungs on the anterior aspect of the heart.

This fact will, I think, serve to explain, in some degree, the alteration in the physical signs of the heart in cases that have undergone resistance exercises and baths. These two procedures will assist in emptying the auricles of their residual blood, and relieve the dilatation. Some effect will be exercised upon the size of the ventricles as well; but it is exceedingly probable that a not unimportant factor in the diminution of cardiac

dulness, about which so much has been written, is the falling backwards of the heart, consequent on the relief of the distended auricles. It must be borne in mind that it does not require an extensive movement forward to materially increase the cardiac dulness; and it is equally true that a moderate relief of the auricles will result in diminution of the percussion limits.

Cohnheim has pointed out that in all cases of cardiac insufficiency, be the original defect or the cause of the failure of compensation what it may, there recurs a dilatation of one or more of the cavities. In mitral incompetence the systole drives blood back into the auricle, and this cavity becomes abnormally distended: as a result, there is increased diastolic dilatation; and where there is, in addition, stenosis of the valve, the amount of residual blood in the auricles is great enough to cause displacement of the heart, as the sections from the human cadaver show. According to Guttmann,[1] where stenosis of the left auriculo-ventricular orifice reaches a certain degree of intensity the apex-beat is absent, whilst the impulse of the base is much increased in force and spreads over a larger surface than naturally. This statement I have repeatedly confirmed by clinical observation; and the explanation is, I think, that urged in this paper—viz., the effect of the distended auricles.

In conclusion, I should like to point out that my investigations go to show that, whilst enlargement of the left auricle may take place to some extent downwards, and possibly slightly upwards, the chief increase is undoubtedly in an antero-posterior direction. On the other hand, Dr. William Ewart contends that in mitral stenosis percussion may determine an increase in the postcordial dulness, from enlargement of the auricle. If my observations are correct, this can take place only to a limited degree; for it is clear, from what has been already said, that any distension of that chamber will carry the heart forward, and rather tend to influence the precordial area of dulness.

[1] *Physical Diagnosis*, 1879, p. 214.

# SOME REMARKS UPON THE FINSEN LIGHT TREATMENT OF LUPUS.

BY

W. KENNETH WILLS, MA., M.B., B.C. (Cantab.), M.R.C.S.

To Professor Finsen, of Copenhagen, is due the credit of introducing to the medical world the possibilities of treating successfully diseases of the integument by light. It very possibly had not occurred to him how great a field he was opening up when first he directed his attention to concentrating the radiant energy of the sun upon the skin for the purpose of destroying *in situ* the germs of disease; but undoubtedly he was the pioneer of all that is now included in the term Photo-therapy.[1]

In the first place he had noticed some deleterious results of the chemical rays of light—those situated at the violet end of the spectrum, and including the green, blue, violet, and especially the ultra-violet rays—upon the skin of man and of lower animals. His observations upon small-pox led him to consider the advisability of excluding these chemical rays from the room of a small-pox patient; and this resulted in preventing, for the most part, suppuration and pock-marking in the majority of these cases.

His next observation was the fact that a large number of the lower forms of animal life show a marked distaste for chemical rays. He found that this was due to an uncomfortable excitation produced when these rays fell upon their bodies, and he determined that nature had provided against deleterious exposures to such rays by causing a pigmentary deposit in the skin of these creatures chronically exposed to the rays of the sun. That this was not due to heat he proves by instancing the pigmentation of fish who, living under water, cannot be affected to any large degree by the sun's heat, and to the fact that at temperatures below zero mountain-climbers can experience high degrees of "sunburn," which end in pigmentation of the skin. He concludes from these data that the chemical rays are deleterious.

[1] *Photo-therapy*: Finsen. Translated by Sequeira, 1901.

However, further investigations showed him that light had an exhilarating effect, which he attributes to an excitement of the nervous system. This he found could be turned to good account, and he tried the exhilarating effect of general light baths in cases of debility with some success. The immediate result of such baths, even in the cold, was to produce an erythema which was not developed immediately, such as a heat reaction would be, but had some latent period, and the effect lasted for some time after the application had ceased.

He then attempted the treatment of skin disease by means of concentrated light, with the idea that, the chemical rays being deleterious to the lower forms of living matter, the germs producing such disease might be killed. Various forms of dermatoses known to be produced by micro-organisms were treated, and especially lupus vulgaris, which being produced by the bacillus tuberculosis, a germ known to be killed by light, lent itself as a test disease for such a treatment.

The bactericidal properties of light are very marked, but they are slow, hence it became necessary to cut off the heat rays from the sunlight, which was used at first to prevent heat reactions.

At first a hollow convex lens filled with a solution of methyline blue was used, which effectually cut off the yellow, red, and ultra-red rays. This gave place to a telescopic adjustment with a deeper water chamber. Latterly, the electric light has been used as being always obtainable, more easily handled, and richer in chemical rays.

The time of exposure was at first about two hours; but better apparatus, including the substitution of lenses made of quartz for glass, which cuts off a large amount of the ultra-violet rays, has led to the reduction of the exposure by Finsen's apparatus to one hour.

The original apparatus consists of a central powerful arc lamp, of 50 to 60 ampères, from which radiate telescopic condensing tubes, in which water is kept circulating.

The patient is in such a position that the light can be focussed upon the part treated, and this is compressed by means of a quartz cell, in which again water is kept circulating.

The tissues are all to a greater or less degree permeable by

light. This has been proved by many experiments. Light has been passed through the body of a well-made man, and the forearm bones photographed upon a plate by the aid of light alone (Gottheil and Franklin).[1] But all the rays of light are not equally able to pass through. The red and yellow rays are more transmissible than the blue or violet. Indeed, blood absorbs the chemical rays so readily that they penetrate a very short distance in the tissues. Hence it is necessary to express the blood from the part treated before the chemical rays are able in any numbers to reach the diseased part.

Finsen found that the strong light of his focussing apparatus was insufficient to influence photographically sensitive paper placed behind the ear in five minutes, until the ear was compressed between two glasses and so rendered exsanguine, when blackening ensued in twenty seconds.

As mentioned above, glass is not suitable as a compressor, for an electric arc of 1,200 candle power has failed to affect the skin when it was filtered through glass (Widmark). Water and ice, while effectually cutting off the heat rays, allow the violet and ultra-violet rays to pass. Considering that these rays so predominate in water, it has occurred to me that the pigmented lateral line of fishes, endowed as it is with a trunk nerve, may be an organ of sense by which fish may be able to determine how much they are exposed to direct sunlight, and so escape too much exposure to the keen sight of enemies. Ice is a useful compressor, as it acts by means of the cold in driving out the blood from the vessels.

After an exposure to this chemical light, a "reaction" of greater or less severity ensues. This intensity of reaction depends upon several factors: the dosage of the light, the translucency of the part treated, the amount of pigment, and the individuality of the patient. In its slight degree the "reaction" consists of an erythema, with its attendant itching and burning, which fades away in a day or two, leaving a powdering of the epithelium. In its greater degree there is a vesicle formation more or less superficial, which gradually dries up and sheds its epithelium in large flakes. Some reaction is essential to the

[1] *Med. Rec.*, 1902, lxi. 609.

beneficial effect of the treatment, and the deeper seated the disease, the deeper the reaction must reach. What actually brings about the good effect, it is impossible as yet to say. Inflammation, oxygenation, nervous stimulation, and bactericidal action no doubt all assist in it. It cannot be the mere inflammation of an antiseptic, else the application of inflammatory antiseptics would bring about a similar result.

The ultimate result of even a deep-seated erythema is merely pigmentation: scarring is not produced; and the treatment can be repeated again and again without producing any untoward results. The usual method adopted is to treat continuously one or more spots, repeating the applications until the nodules of lupus, distinguished by the light-brown, freckle-coloured "apple-jelly" deposit, have entirely disappeared.

In this way the disease is eradicated, care being taken to treat a growing margin at first, and when the growth is checked the attention is paid to the other parts in order. Not only is there a good effect upon active disease, but also scar-tissue is rendered more supple and elastic. It tends less and less to bind down the skin and lead to such hideous contortions and deformities.

A phenomenon I have remarked is noteworthy. When a patient has come under treatment with the lupus spreading rapidly, when part of the growing margin has been treated, the extension in other directions seems at times to be simultaneously arrested: and parts not treated in other positions in the body occasionally share the improvement in the part treated, though not of course in the same degree.

After a patch of lupus has been treated continuously for some time and the reaction has been allowed to subside, the apple-jelly deposits are found to have become paler in colour, and these gradually disappear entirely under treatment. It is a matter of some experience to tell when a patch is quite healed, and this difficulty accounts for the number of cases which return for further treatment after they have been allowed to discontinue the treatment owing to the disappearance of the deposits. The so-called recurrences are, it is supposed, in reality foci which were not completely cured, and these yield to treatment eventually. The scar left is in some ways different

from that produced by operations. It is not so white, being more the colour of the surrounding skin, and it is more supple, not leading to contraction.

There are some patients who do not react readily to the light, and who therefore require very long exposures. For these cases it is useful to use some application which will irritate the skin somewhat, after which much shorter exposures will be found sufficient. Various substances have been found to be useful in this way, notably pyrogallol and carbolic acid. It is useful, and in some cases necessary, to use a solution of caustic potash to remove the scales, and ether to remove any grease which may be present. These will act in the same way, but one objection to the use of any of these substances is that the hyperæmia produced has to be combatted by greater pressure to render the parts exsanguine.

Other agencies comprise: Acid nitrate of mercury; several consecutive applications of light to one spot (Dore)[1]; one per cent. solution of permanganate of potash; a solution of iodine and glacial acetic acid (viz.: iodine 1, pot. iod. 2, glacial acetic acid 2, water 100.) Macleod.[2]

Personally, I find that an occasional exposure to the X-rays will increase the reactions from the light considerably, and this effect is not lost so easily. The X-rays are useful as an adjunct in other ways: they are beneficial in healing ulcerations as well as reaching parts which cannot be treated by the light. For instance, in a boy, aged 13, the light was used successfully at first for lupus involving the alæ, and tip of the nose, and the upper lip: the septum of the nose was ulcerated away, and a deep ulcer extended from the lip up into the nostrils, the discharge from which completely occluded both nostrils with thick crusts. It was impossible to reach this ulcer effectually with the smallest pressure-glass of the lamp, but the X-rays, after twenty exposures, have healed the whole completely, leaving a clean, and what appears to be a sound, scar behind.

The X-rays have a peculiar selective affinity for lupus. In the case of a girl, aged 16, with deep-seated extensive lupus on the right side of the face and neck, a slight overdose of the rays

[1] Dore, *Brit. M. J.*, 1902, ii. 1317. [2] Macleod, *Ibid.*

produced a small "burn" on the diseased part exposed, while the normal skin showed merely an erythema.

Some cases of lupus show considerable thickening and infiltration of the parts. For this condition pyrogallol is recommended by Dore and Macleod,[1] and the internal use of thyroid extract. In one case where I used the latter, in the hope of reducing a great hypertrophy of the upper lip in a man aged 21, the lip certainly became much smaller and he himself much thinner; but I could not determine how much the mere pressure of the lens had to do with the lessening of the size of the lip.

The œdema caused by the light reaction is in some patients considerable, especially in the region round the orbit, where the cellular tissue is loose. The eye should in all cases be efficiently protected, as a very painful conjunctivitis may ensue from undue exposure. A striking instance of this occurred in my own consulting room, where an electrician's assistant was holding an iron-electrode lamp (Leslie Miller) while his mate was fitting resistance so as to work it from the mains. After it had been working for a few hours with intermittent doses of ultra-violet light, he had to spend the rest of the day bathing his eyes with cold water. He was by no means well by the next morning.

The Tesla high-frequency currents have been used to increase reaction, as well as in the complete treatment of lupus. My experience as yet is too limited to say more than that in one case considerable exfoliation followed a few minutes' application with a pointed glass electrode to the margins of the nostrils, and a deficiency in the septum where the disease was still active. In another case, in which the whole of the face was hide-bound by scarring, after a few treatments with a glass electrode the patient stated that her face felt less drawn, though I could not personally detect any difference by touch.

Some cases of lupus seem to resist the rays. What these are cannot at present be foretold. Some of the oldest cases at the Bristol General Hospital are improving, while others more recent do not seem so hopeful. As a rule, however, the more recent the disease the more readily it reacts.

[1] Dore, *loc. cit.*

Scarring undoubtedly protracts the treatment very considerably. The best cases for treatment are those where the disease is recent, and where no surgical procedure has been carried out, either by knife, cautery, or caustics.

A word about the various forms of lamps in use at the present day.

It is not in the power of everyone to obtain the enormous plant required for the carrying out of the treatment exactly as Finsen himself does. But equally good results can be obtained by smaller installations. The essentials in a lamp are: Its light must be—

(1) Intense,
(2) Rich in chemical rays,
(3) Cool, and
(4) It must penetrate the tissues.

It is not as yet ascertained with any degree of exactitude what are the most important rays in photo-therapeutics. It is possible, if not indeed probable, that the shorter the wave length the more useful the rays are; the longer they are, to a certain point, the deeper they penetrate. The rays in between the two extremes would therefore seem to be the most advantageous as possessing both these characteristics to a certain extent, and these include the extreme violet and blue. But I think, as has been suggested I believe by Dr. Ernest Dore, there is evidence to show that the waves of longer length in their penetration carry with them shorter lengthened rays, which would not themselves penetrate deeply.

Finsen himself used the white light of the electric arc, but Bangs, a colleague of his at Copenhagen, suggested the use of an arc lamp with iron electrodes instead of carbons. The resulting light is a bright violet in colour, and although not nearly so intense to the eye as a carbon arc, is richer by far in violet and ultra-violet rays. The eye being only able to detect wave lengths of about 392 $\mu\mu$ (millionths of a millimetre) the rays giving shorter wave lengths than this cannot be appreciated, though a photographic plate is affected. The wave length can be raised in length by various fluorescent substances, such as the alkaline earths, the platino-cyanide of barium screen, or willemite, a silicate of zinc, esculine, fluorescine,

sulphate of quinine, and lead glass. These substances fluoresce brilliantly under the "iron light."

The best known lamps made on this principle are the "Dermo," with water-cooled iron electrodes, and the St. Bartholomew's Hospital lamp (Leslie Miller). I have had two of the latter in use at the Bristol General Hospital, and can testify to the fact that good results may be obtained by their means; but the good is not by any means proportional to the relative richness in chemical rays, and the reason of this must be sought in the want of penetration.

Several smaller carbon lamps are now being used: Marshall and Wood's, with a water chamber through which the light passes and is cooled in the metal case—a modification of the lamp of Lortet and Genoud ("French lamp"); the Cox lupus lamp (Heathcote patent); and the new Danish lamp (Bang's), both with water-cooled carbons. These all are of advantage in being practically smaller, and therefore cheaper editions of the Finsen lamp.

I have had made for me, with the skilled assistance of Mr. A. Pitt, a lamp combining the advantages of both the carbon and iron electrodes. The iron is so arranged as to yield its vapour in the burning of the carbons, and in this way is produced a light which is very rich in the ultra-violet rays, and is also rich in the rays of more penetrating power. It is fitted with a running water chamber, which cools the light effectually, and is very portable. When used with a set-up transformer and a condenser, the alternating electric main supply can be utilised, and a very small amount of current is used, about $\frac{1}{2}$ amp. Although I have not had time to do more than a few simple experiments with this lamp as yet, enough has been done to show that it contrasts favourably with the Marshall and Wood's and the St. Bartholomew's lamps. The reaction upon my own arm has been greater under similar conditions. Reactions upon patients have been much more pronounced, and, as far as can be seen, deeper. The fluorescent effects have been increased from a distance of three feet with the St. Bartholomew's lamp, to nine feet. The penetrating effects, as shown by photographic plates bound to the back of a thin boy, have

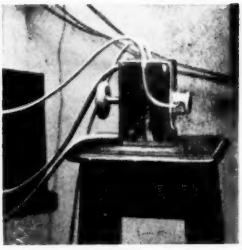

Fig. I.

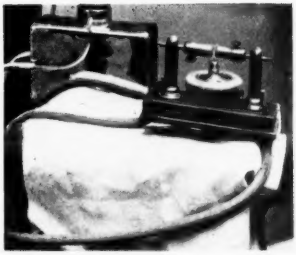

Fig. II.

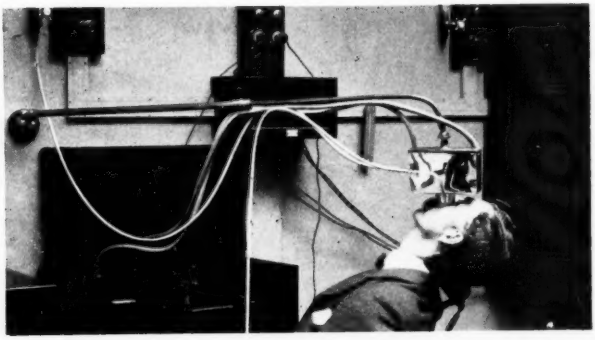

Fig. III.

Fig IV.

been somewhat greater than with the Marshall and Wood's carbon lamp.

Freund has determined spectroscopically that chemically active rays pass freely through the epidermic tissues of considerable thickness, and if it is a true assumption that white light will aid the penetration of the ultra-violet rays, then we should in this combination add considerably to our armamentarium. Since my experiments were commenced, much the same idea has been utilised in a new lamp brought out by the Sanitas Company, called the "Triplet." In this one iron and one carbon electrode can be used together for the production of "mixed" light. This arrangement does not promise so intense a light as in my suggestion, whereby the iron is introduced as a thin wire running through the core of the carbons.

The results in our experience have been already dealt with in a former article by Dr. A. J. Harrison and myself, so I will not now take up more space by referring to them. My experience with the light in lupus erythematosus is not encouraging, though in one case I have hopes that the X-rays have completely eradicated this disease. This, however, I freely admit was performed by inducing a severe X-ray "burn," which on healing left a pale white scar, without any sign of the disease on the site of the burn. In the remaining foci I have succeeded also in inducing a slight burn, and trust that when this is healed the disease will have been completely cured. But in this time can alone prove the value of the treatment.

NOTES RELATIVE TO FIGURES.

FIG. 1. Author's lamp with iron-cased carbon electrodes and water cooler as used as a hand lamp.

FIG. 2. Showing the arrangement of the electrodes.

FIG. 3. The same lamp used at the end of an adjustable bracket. Its own weight supplies the necessary pressure for rendering the part treated exsanguine. The source of electricity is the city mains, the current being used through a step-up transformer and condenser.

FIG. 4. Photograph reproduced by passing the light of an arc lamp through the chest of a thin boy on which a negative had been carefully strapped, the sensitive film having been fixed to the negative. All extraneous light was carefully excluded: only light passing through the body could reach the negative and so affect the film. Time, 3 minutes. Distance from arc, 12 ins. (circ).

# ON THE DIAGNOSIS OF MALIGNANT DISEASE OF THE BODY OF THE UTERUS, WITH NOTES OF A CASE TREATED TWICE BY CURETTAGE, AND FINALLY BY HYSTERECTOMY.[1]

BY

ERNEST W. HEY GROVES, M.D., B.Sc. (Lond.).

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CASES of malignant disease of the body of the uterus are undoubtedly rare, forming, according to Schrœder, only 3·4 per cent. of all the cases of malignant affections of the uterus. And when a leading English authority speaks of only having seen five cases[2], it is clear that in the experience of any one practitioner the occurrence of such a case will be so uncommon as to compel him to rely on the experience of others in its diagnosis. The great importance of early diagnosis in this disease is only equalled by its difficulty; and as the following case illustrates this difficulty so clearly, I bring it forward in the hope that it may afford a good subject for discussion. And I must admit from the outset that I am fully prepared to have the diagnosis of malignancy disputed, and the radical treatment of hysterectomy, which follows from that diagnosis, called in question.

The patient was a maiden lady, aged 47, who, when I saw her in 1901 first, had the following history: No previous illness. Catamenia used to recur every 28 days, last six days without much loss or pain.

1892. Periods began to be prolonged to 7–9 days, and she consulted a doctor, who said she had a tumour.

1893. She once had "a flooding" during a menstrual period, when she passed "large clots."

For six years the lengthened periods continued without any further "flooding" or other feature until 1899, when each period was followed by several days of severe pain, which confined her to bed. The pain was in the left side of the genital organs, and shooting down the left leg. The next year, 1900, she had four to six days' blood-stained discharge after each period ceased, as

[1] Read at the Meeting of the Bristol Medico-Chirurgical Society, March 11th, 1903.

[2] Sinclair, Clifford Allbutt and Playfair's *System of Gynæcology*, 1896, p. 715.

well as the great pain. This condition continued to get worse in spite of rest, drugs and douches, until, in 1901, she was bleeding for fourteen days out of every twenty-eight, and was reduced by pain and anæmia to absolute invalidism. In November, 1901, she was seen by a London gynæcologist, who removed a "large mucous polypus from the uterine cavity and curetted"; but bleeding continued after this operation for fourteen days. During the next five months all the previous symptoms reappeared, so that a week's copious bleeding was followed by nearly a week of thin sanious discharge, which was never offensive; the pain in the left labium and left leg was worse than ever, and during these months she spent nearly all her time between the bed and sofa.

On examination, the uterus could be felt to be somewhat enlarged, hard and tender, but fully movable: on its posterior surface a hard nodule was felt; the sound passed with great pain, 3½ inches with concavity backwards, and produced copious bleeding. An exploratory operation was undertaken on April 9th with a view to discovering the condition of the uterine cavity. In the lithotomy position, under anæsthesia, the cervix was dilated by Hegar's dilators until the finger could be introduced. The cavity was irregular, being lined by thickened mucous membrane, which projected in ridges and mounds; but no discrete tumour or polypus was felt: every manipulation caused very free bleeding. The sharp curette was used, and could be felt to cut deeply into the thick mucous membrane, especially in the region of the fundus, and more than an ounce (fluid measure) of coarsely granular material removed. The uterine wall then sounded harsh and grating, but smooth, under the curette.

All this seemed perfectly typical of endometritis fungosa, and, with confidence in this diagnosis, I forwarded a specimen from the curettage to an eminent pathologist who, to my great surprise, returned a report of malignancy. I felt such difficulty in accepting this, however, that I sent a second specimen to another well-known pathologist who, without any hesitation, declared it to be columnar-celled carcinoma, his description running as follows: "Both these fragments from the uterus are affected with columnar-celled carcinoma of the villous type. The surface exhibits many papillary outgrowths, and here and there cysts are formed, containing similar papillomata. The evidence of malignancy is found in the processes of epithelial cells which are invading the muscular substance of the uterus. Many of the tubules are filled with mucoid secretion." It seemed folly to doubt or delay after this, and accordingly three days later the uterus was removed by vaginal hysterectomy. The operation was rendered difficult by the smallness of the vagina, which was enlarged by cutting right through the perineum to the sphincter ani. The uterus could not be extracted without almost cutting it in two. Three pair of

forceps were left on the broad ligaments, and the ligatures left long, the vagina being sewn together with one stitch at the pelvic floor and with four at the perineum.

The same afternoon I received a second report from the first pathologist I had consulted, saying that after further sections had been cut "they present some difficulties, but, on the whole, I am inclined to think that the growth is non-malignant. Some appearances, however, are not unlike adeno-carcinoma, and therefore I would advise a further curetting in three months' time."

For the next few days whilst the patient's life trembled in the balance this report made me very unhappy, but I am glad to say she made an uneventful recovery and is now quite well and active.

The uterus was submitted to both authorities. The first now holds by his later opinion of non-malignancy. The second writes: "This uterus was so hard and distorted on arrival that at first sight there appeared to be no growth in its cavity. The uterus, as a whole, is hypertrophied, which is partly due to the presence of many small fibroids in the wall. The lining of the uterus has a rusty colour from old blood staining. At the fundus there are several ragged areas in the endometrium, but little or no projecting growth. The section has been taken from one such area, and at right angles to the surface. It exhibits tubular processes of columnar-celled carcinoma deeply infiltrating the muscular tissue. Some of the tubules form small cysts containing villous ingrowths, and in other places the cells are undergoing mucoid degeneration. Hence the condition exactly corresponds with that previously found in the curettings."

I would add to this description of the uterus the remark that the bulk of the new growth proper has been scraped out by the curette, which was applied only ten days before the organ was removed; and if the growth had been left *in situ* the organ would not have exhibited its present innocent appearance.

I may now very briefly call your attention to the chief symptoms of carcinoma of the body of the uterus in their bearing upon the diagnosis between malignant and benign disease.

*Etiology.*—The patients are older women than is usual in carcinoma of the cervix. The age is seldom or never below 45 years, and is usually much greater than this, 55 being a common average. Thus more than half the cases occur long after the climacteric. This would serve to distinguish them from the majority of cases of fibroids, and also from cases in which septic endometritis has complicated incomplete abortion. The patients

are usually nulliparous, and often belong to the better social classes.

*Bleeding* is always the first and most prominent symptom. Insidious in its onset and indefinite in its characters, it is long concealed by the patient, and even when described to the medical man is too likely to be made light of, especially as it is exceptional for any tumour to be found on examination. It has the character of menorrhagia in all ante-climacteric and in most post-climacteric cases.

*Pain*, however, soon supervenes and accompanies the bleeding, being, in fact, symptomatic dysmenorrhœa. Professor Sinclair suggests that this is due to the effort on the part of the uterus to expel the diseased endometrium as though it were a foreign body. But however this may be, the pain is an early symptom, is paroxysmal, and usually absent between the attacks of hemorrhage. It is very different from the agony of cancer of the cervix, which comes on late in the disease, and when once established is hardly ever absent, being due as it is to a malignant infiltration of the connective tissue and nerves of the pelvis.

*Discharge.*—When the disease is well established the intervals between the bleeding are occupied by a thin sanious flux, which is not particularly offensive, and it is only in advanced cases that this becomes fœtid or purulent.

*General Condition and Course of Disease.*—Cachexia and emaciation are long delayed, the patient's condition being that of anæmia without any loss of flesh for several years. It seldom proves fatal in less than five years from the onset of the symptoms, and may extend over eight, nine, or even ten years.

*Local Conditions of the Disease.*—The uterus is somewhat enlarged and hard, but freely movable, until the peritonitis which closes the case begins to tie it down by adhesions. The cervix is unchanged, or it may be thinned out by the partial protrusion of a polypoid growth, and its mucous membrane often has an unhealthy dark-blue appearance. There is no invasion of the connective tissue in the broad ligaments or round the rectum; in fact, there is nothing of diagnostic importance that can be discovered by vaginal or bimanual palpation. Metastatic growths appear more slowly in this than in any

other form of visceral malignant disease; when they do occur it is in the lumbar and not the pelvic glands.

All these features of carcinoma of the body of the uterus offer a marked contrast to those of cancer of the cervix, but these features are due to the situation rather than to the nature of the growth, and are shared by other diseases of the endometrium and body of the uterus.

There are at least four diseases which produce some or all of the symptoms of carcinoma of the body of the uterus, and of these two are readily dismissed. They are incomplete abortion, fibroids, mucous polypus, and certain mis-named forms of endometritis.

*Incomplete Abortion with Septic Inflammation of the Uterus.*—In this condition the history will be a short one, measured by months and not years. The symptoms begin abruptly with a so-called "flooding" preceded probably by amenorrhœa. The uterus, although enlarged, is soft, and the os patulous; bleeding is copious and irregular, and the discharge often very foul with shreds and clots; pain is not conspicuous, and is of a dull aching character. On dilating the cervix the nature of the uterine contents is readily recognised to be that of fœtal membranes or placenta, or it may be that a fibrinous polypus has been moulded on the disorganised shreds of these products of conception.

*Fibroids.*—In the majority of cases a slowly increasing menorrhagia with delayed menopause is associated with irregular or great uterine enlargement. On exploring the uterine cavity and curetting [1] a small quantity of shreddy material is removed amounting to scarcely a drachm, and the uterine wall is felt to be hard and smooth. A fibrous polypus may be found in the uterine cavity or may be already extracted through the cervix. The firmness of this and its dense white appearance on section leave no doubt as to its nature. Sometimes, however, a fibroid may have remained latent and the menopause established, when (it may be years afterwards) the fibroid sloughs, producing bleeding, copious and very offensive discharge, with some pain. If necrosis has advanced so far as to

[1] Howard Kelly, *Operative Gynecology*, vol. i., 1898, p. 491.

destroy the bulk of the fibroid before the case comes under observation, the abundant shreddy material scraped out from the uterus will have a fibrous character, as seen by the microscope, which could not be mistaken for anything else.

*Mucous polypus*, or, better, simple polypoid adenoma, causes copious bleeding with profound anæmia if left untreated; but there is a marked absence of pain such as occurs early in the history of malignant disease of the body of the uterus. If the polypus is not extruding from the cervix, the latter must be dilated, and then a soft growth, varying in size from that of a lentil up to that of a walnut, is found slenderly attached to the wall of the uterus. It is readily twisted off, and after the uterus has been curetted the symptoms usually cease, and this is notably the case when the polypus is attached in the neighbourhood of the cervix. In women between 45 and 50 this simple operation is enough to establish the menopause, and generally uterine bleeding ceases from that day onwards, or only one or two scanty periods occur before permanent amenorrhœa is established. But in a few cases this desirable sequel to the removal of the polypoid adenoma does not occur, and, as in the instance I have related, the bleeding and pain are rapidly re-established, and the case must be regarded as one of "hypertrophic endometritis" or malignant disease. The histological nature of the mucous polypus will not guide us much, showing simply the structure of an adenoma; therefore in a case of a mucous polypus, whatever the pathological report, it would be wise to give a guarded prognosis, and not to decide the question of recurrence in a benign or malignant form until several months have elapsed.

*Hypertrophic Endometritis, or, better, Adenoma of the Uterus*, includes a group of cases which contains all pathological gradations between a simple mucous polypus and fully-developed adeno-carcinoma. Great confusion has been introduced into this subject by the multiplication of names, most of which are fundamentally incorrect in implying a primary inflammatory condition; thus, endometritis hypertrophica, E. hyperplastica, E. villosa, and E. fungosa, are all names for a new growth of the uterine mucous membrane; but although all text-books

now point this out, yet the old term endometritis is still used to designate all that group of cases where the mucous membrane is thickened and the glandular elements greatly increased in number and complexity without showing malignant characters. Calling, then, all these conditions simple adenoma of the uterus, let us consider what are their symptoms and pathology.

The symptoms are the same as those of the mucous polypus, as might be expected from essentially the same disease. Bleeding, with the consequent symptoms of anæmia, sums up the patient's complaint. There may be some intermenstrual discharge of thin blood-stained inodorous fluid, but the main bleeding is a prolonged successive monthly loss. Pain is conspicuously absent, and this affords the most striking difference from malignant disease. The patients are of exactly the same age as those subject to cancer of the body; they are often nullipara who have passed the climacteric. For this reason the adenoma has often been called endometritis senilis; but this name ought to be retained for a very rare condition, which is essentially one of atrophy, in which the shreddy *débris* of the mucous membrane contains hardly any glandular elements, and which cannot therefore be mistaken either for adenoma or cancer.

On examining the uterine cavity in adenoma the mucous membrane is thick and soft, and bleeds profusely on manipulation; it is thrown into more or less marked folds, tags, villous projections or polypi, which can be readily removed with the curette. Under the microscope sections of this tissue show the same structure as that of the mucous polypus, with perhaps greater elaboration. There is an increase in both interstitial and glandular elements of the mucous membrane, although the first predominates in one case and the second in another. The glands are enlarged and tortuous: some are dilated to form cysts, and many show mucoid or myxomatous changes. So far there is nothing to suggest malignant disease, but unfortunately two further features may be presented which are supposed to be typical of cancer. The one is endothelial proliferation, producing a blocking of the glands, and the other is an invasion of the muscular wall of the uterus by the glandular elements. The

first of these points is the common criterion of carcinoma, and yet it not only occurs in simple adenoma, but is actually described as the normal condition in the deeper portions of the glands by Symington in Quain's *Anatomy*.[1] There is no doubt a great difference between an established malignant growth composed largely of solid epithelial tubules and a simple adenoma in which all the glands are well formed and with a good lumen; but still, in a doubtful case, it is hardly possible to rely for decision on a feature which may actually be found in the normal uterus.

The invasion of the muscular tissue by glandular elements is said to occur, and is figured by many writers, *e.g.*, Cornil,[2] Cullen,[3] and Eden,[4] in cases of simple adenoma or hypertrophic endometritis. It would be interesting, however, to know the after-history of these cases before admitting their benign nature. For instance, at the Obstetrical Society, in 1900, Dr. Eden showed almost exactly similar microscopic sections to those of the case I have just described. He called it a fibro-adenoma, and figures the glandular processes deeply invading the muscular tissue; but the woman died of pulmonary embolism, and the benign nature of the growth was a mere conjecture.

In their clinical course, too, many cases of adenoma resemble cancer in their great tendency to recurrence. For example, Haultain[5] describes a case in which "Five years ago, for the fourth time within eighteen months, I removed from a patient aged 59, still alive and healthy, a large number of intra-uterine adenomas." And he believes so much in the simple nature of such conditions that he goes so far as to remark: "As these neoplasms have been known to be the forerunners of malignant disease, and also in some cases to recur locally, a chance is given to those smitten with the hysterectomy furor to remove the uterus." Sir John Williams,[6] on the other hand (in common

[1] Clifford Allbutt and Playfair, *op. cit.*, p. 714.

[2] Cornil, *Leçons sur l'Anatomie pathologique des Metrites*, Paris, 1889.

[3] Cullen, *Cancer of the Uterus*, 1900.

[4] Eden, *Tr. Obst. Soc. Lond.*, 1900, xlii. 2.

[5] Haultain in Clifford Allbutt and Playfair, *op. cit.*, p. 609.

[6] *Cancer of the Uterus*, 1888.

with many continental authors), expresses the view, in his Harveian lectures on *Cancer of the Uterus*, that all cases of adenoma occurring at or after the menopause are malignant and should be dealt with as such.

Two facts, however, seem to be established amid all this uncertainty. The first is that in its early stages adeno-carcinoma of the body of the uterus cannot be distinguished by microscopical characters alone from adenoma, or the so-called endometritis hypertrophica; and the second is that all these glandular new growths of the endometrium run one of three clinical courses; either they never recur after removal with curetting, or they recur a number of times without fresh evidence of malignancy, and are finally cured by curetting, or they recur in a more pronounced malignant form, and end, if not treated radically, as frank malignant disease.

The practical deduction from these facts seems to be that every case in which excessive bleeding occurs at or after the menopause, and in which the curette removes a glandular polypus or a quantity of richly glandular new growth, should be regarded with suspicion, and that every recurrence of such growth and the rapidity of the recurrence should heighten this suspicion, and that if the disease be not cured within a reasonable time, *i.e.*, a year or eighteen months, the uterus ought to be removed without further delay. And I may here remark that few patients are sufficiently philosophical to submit to a curetting under anæsthesia every three or four months whilst this result is being arrived at, in which case it would be better to remove the uterus if the symptoms recur after the second curetting than to allow the woman to trust to the chances of a purely expectant treatment.

In the case I have described there are, besides the pathological report, two strong indications of malignancy. In the first place, the symptoms recurred at once after curetting without any free interval at all; and, second, the large quantity of new growth formed in the short interval of four months.

The case was complicated by the fibroids in the wall of the uterus, which no doubt accounts for the ten years' moderate menorrhagia which preceded the more acute symptoms.

The excellent results obtained by vaginal hysterectomy in this disease fully compensate for the difficulty in its diagnosis. Thus Wilson, in the *Journal of Obstetrics and Gynæcology*,[1] shows that the proportion of lasting (*i.e.*, three years) cures after hysterectomy for cancer of the body of the uterus is 75 per cent., whereas the corresponding figure for cases of cancer of the cervix is only 25 per cent. This is due to the great thickness of the uterine wall which limits the growth, to the resulting fact that invasion of surrounding organs does not occur, and to the very late development of metastasis.

## MISSING LINKS IN JOINT DISEASE.

BY

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My object in this paper is, in the first place, to dispose of rheumatoid arthritis as a distinct disease, and then to suggest that many of the cases that are at present included under this name are in reality manifestations of the rheumatic state, whilst the rest are the outcome of various infective processes. I think the time has come when it is at least reasonable to doubt whether, as a distinct and seperate disease, rheumatoid arthritis exists at all. For my part, I have come to regard it as a condition which results from various causes.

No one, I feel sure, who attended the section in medicine at the Cheltenham meeting two years ago, when this subject was under discussion, could have failed to be struck by the remarkable divergence of opinion which existed as to what rheumatoid arthritis really was. No two speakers were mutually agreed as to a definition of the disease, or as to what cases it should

[1] Wilson, *J. Obst. and Gynæc.*, 1902, p. 542.

include. If we turn to the literature upon the subject, the confusion is the same, with this addition, that there are almost as many names under which it is described as there are authors to describe it.

With all these various opinions, and with all this difficulty in classification, it is certainly allowable to ask whether rheumatoid arthritis should any longer be included in the list of separate diseases. It is said to occur at any period of life, from childhood to extreme old age. The typical cases belong to early adult life, and are seen seven times more often in women than in men. With the puffy synovial swellings, especially of the smaller joints; the anxious look, the quickened pulse, the wasted muscles, the increased reflexes, and general debility, we have shortly the clinical picture of a typical case of rheumatoid arthritis. But in the descriptions of this disease there are also included cases which present only those bony changes in the phalanges, which are known as Heberden's nodes; those in which one joint, perhaps the hip, of some old man is semi-ankylosed and fixed; and others where osteo-arthritic changes have affected the vertebræ till the spine has grown together into a deformed and solid mass.

Such, then, are the cases that are at present included under the title rheumatoid arthritis; and, I ask, is it a disease by itself? or are not these symptoms rather the outcome of various causes?

First, then, is it a distinct disease? distinct, that is, as we, rightly or wrongly, apply the term to tuberculosis, in which we can at least demonstrate the presence of what seems to be a specific bacillus. A few years ago consumption, as it is still popularly understood, was a distinct disease; tubercular peritonitis and meningitis were distinct diseases; as also were what we were taught to speak of as "white swelling" and "struma."

Now, a missing link has been discovered in the tubercle bacillus, which seems to unite these various conditions, and we group them together under the term tuberculosis. It must not be forgotten, however, that even here we have at best only demonstrated the presence of one factor which is common

to these conditions; the other, and probably the far more important of the two—namely, the nature of the soil—still remains an unknown quantity.

Taking tuberculosis, however, as an example, is rheumatoid arthritis a disease even in the sense that it possesses a constant microbe? In the wider acceptance of the term, with those chronic and osteo-arthritic cases, which some include, and some exclude, the answer may at once be given in the negative, for the discoverers of micro-organisms say that these are not found in such cases.

How is it in its more typical and acuter form?

*Schuller* it was, I think, who first demonstrated a micro-organism in rheumatoid arthritis. It was a short bacillus, with polar enlargements, staining readily by ordinary methods, and sometimes accompanied by micrococci and the gonococcus.

*Schneider's* organism was a small micrococcus. In his case the centre of infection was, he believed, an inflamed gall-bladder.

*Raymond* describes a short thin diplo-bacillus, growing only in synovial fluid.

*Drs. Bannatyne* and *Wohlmann* found a small bacillus which grows best in peptone meat broth, and stains darkly at both ends, but with some difficulty. The culture, by the way, in this case has the appearance of "gold dust," which confirms the opinion I have long held that microbes are a good investment.

We have thus four distinct micro-organisms from which to choose, differing from each other, not only in the outward form, but also in their dietary, and choice of colours. We are told that each in turn is the true germ of rheumatoid arthritis, and the natural conclusion is that they, none of them, are its specific cause.

The evidence so far, then, in this direction, does not tend to establish rheumatoid arthritis as a distinct disease. If we turn back to its clinical features, and enquire into the past history of the cases, we are equally met with an absence of uniformity and a state of chaos. We find rheumatoid arthritis running into, and overlapping, other diseases in a manner which is

perfectly bewildering. In what is known as gonorrhœal rheumatism, and as a result of gout, and of abscess in the lung or in the middle ear, we see typical cases of rheumatoid arthritis.

Dr. Cave quoted, at the Cheltenham meeting, a case where all the symptoms of the disease followed in the course of a severe ulceration of the rectum. Then in tetany we have a disease which is sometimes indistinguishable from rheumatoid, where the periarticular swellings and the puffy enlargement, especially on the dorsum of the hands, suggest a close connection between these two conditions.

In Raynaud's disease, too, as Dr. Llewellyn Jones has lately pointed out, in Graves' disease, to which attention was called by Dr. Spender, and in simple anæmia, the similarity equally exists. The evidence to be drawn from all this points strongly, I think, to two things: first, that rheumatoid arthritis is not a distinct disease, due to any one specific organism; and secondly, that it is a condition of ill health resulting from various infective poisons. There is one disease, the influence of which in the causation of rheumatoid arthritis it has been rather the fashion lately to decry. I mean rheumatism. This is a disease which probably possesses a special micro-organism. Ten years ago Dr. Buzzard suggested that this would prove to be the fact, and that it would be shown that this organism acted through the nervous centres. Recently Drs. Poynton and Paine have described a diplococcus which they regard as the cause of rheumatism: whether theirs is the true one or not, I think we may assume that one exists. Rheumatism in its more regular forms varies much in its symptoms, and in the degree and extent of its attacks.

I have seen undoubted cases of acute rheumatic inflammation of the nerves, and of the meninges of the brain and spinal spiral cord; and I think the view may fairly be maintained that the acuter manifestations of the rheumatic poison have also their counterpart in the more chronic forms, such as sciatica, lumbago, and chronic joint affection; and I would extend its influence still further, so as to include many cases of the so-called rheumatoid arthritis.

I was glad to notice that at the Cheltenham meeting Dr. Garrod apparently agreed with the view I took in a treatise I had published about six months previously, namely, that rheumatoid arthritis was probably an irregular manifestation of the rheumatic state. I feel more strongly than ever that this view is right, only with this important modification, that, instead of saying this of rheumatoid arthritis, I should now say it only of a large number of those cases which we have in the past grouped together as a distinct disease, and called by that name.

I regard these cases as due to the specific organism of rheumatism finding itself in soil of a special kind, and developing, not the true disease, but the bastard form called rheumatoid arthritis.

The association, clinically and in the previous history of rheumatism with rheumatoid arthritis is too intimate to be dismissed merely as a coincidence. When we look at the nervous side of rheumatism, and see its connection with another nervous disease—namely, chorea,—and remember the marked nervous phenomena of rheumatoid arthritis, I think that it is fair to assume that, in many cases at least, the results are brought about by the specific micro-organism of rheumatism acting through the nervous system, and producing what may be called a rheumatic nervous illness.

Is this theory, of different results brought about by a common microbe in different soils, too fanciful? I think not. Does it not occur in tuberculosis, which has been mentioned? Are not the tubercular joint and the pulmonary phthisis but the result of the tubercle bacillus acting differently according to the individual susceptibility, or, in other words, according to the difference of the soil?

The variation in the behaviour of cultured microbes is very suggestive of what they may do in their wild condition. If differences can be observed with the artificial feeding in the laboratory, how much more may they not occur in the laboratory of the human body?

Is it too great a stretch of the imagination to suppose that

apparently dissimilar bacilli may be descendants of a common ancestor who have developed differently in their different surroundings, or even that micrococcus and bacillus are at times but varying phases in the life-history of the same organism? We have an analogy in nature which at least suggests this possibility. Who, seeing ten feet of the solitary tapeworm on the table, and, side by side with it, its tiny cysticercus, would guess, unless he knew, that they were but stages in the life-history of the same individual?

The case of the caterpillar, the chrysalis, and the butterfly is a prettier instance, perhaps, of individual continuity through many forms. If this polymorphic theory as applied to micro-organism is correct, it may help to explain some of the different germ-forms that have been found by various observers in rheumatoid arthritis. But the very idea of its possibility should make us pause, and be less inclined to dogmatise as to the true position of microbes in the causation of disease.

Take typhoid fever, for instance. Is it necessary for the bacillus typhosus to find entrance to the body from without for this to be produced? Or cannot the bacillus coli develop, when the conditions are favourable, into the more virulent typhoid bacillus within the body?

Sporadic cases of this disease, such as the single one that occurred in Bath last year—which apparently came from nowhere, and led to nothing more,—seem to suggest that this is at least a possibility. We can educate the bacillus coli by artificial means till it does not produce indol or gas in its growth, and until it no longer is capable of coagulating milk. In this condition it resembles, in these respects at least, the typhoid bacillus. Moreover, this latter microbe has been taught to produce gas and indol, and to coagulate milk like the bacillus coli. These things being so, is there anything extraordinary in supposing—even in the absence of present evidence—that, within the body in its natural state, the bacillus coli may become the cause of typhoid fever?

There was one bacillus typhosus a little time ago; now there are many strains of this microbe which each respond in turn to their respective Widal's test, and as a means of diagnosis the

negative evidence of this test has now ceased practically to be of any value. The influence of the soil in modifying the functions of micro-organism is to be noticed, too, in the bacillus prodigiosus. When this organism has grown old in the temperature of the room it loses its pigment-producing powers, but these can be restored again by growing it on a potato.

Shortly to sum up, then, the evidence to be found in the previous history, the exciting causes, the clinical features, and the bacteriology of rheumatoid arthritis all point away from this being any longer recognised as a distinct disease. I look upon it as a condition due, not to any one specific germ, but to various different kinds of germs, which link it to rheumatism, to rheumatic arthritis, to gout, and to other diseases, some of which I have mentioned; and I suggest that these organic poisons, either by themselves or through their toxins, produce their results by acting through the nervous centres in an individual whose vitality is lowered and whose joints have a tendency to disease.

## Progress of the Medical Sciences.

### MEDICINE.

**Common hemiplegias.**—There is a danger in medicine of our paying attention exclusively to the abstract and rare, and forgetting the common everyday ills of human life, though the latter involve some of the most important problems of pathology. For one sufferer from acromegaly or leukæmia there are a thousand whose lives are cut short or made pitiable wrecks by what the laity call "strokes." Some die at once, some drag out a miserable, drivelling existence, and a few recover to do good work, like Pasteur, for twenty or thirty years, but always with the haunting shadow of a second attack hanging over them. Indeed, to every man in the second half of life, so common is this fate, there comes the fear lest it be his own lot sometime to lie paralysed with broken, muffled speech, and look round sadly on his books and tools which

he will never use again, while ruin falls on one faculty after another, the highest first. What are the means of prevention and methods of treatment for these very common hemiplegic paralyses? In these days of collective investigations and crusades against tuberculosis and cancer, there are few subjects more worthy of such a combined effort than this; yet we are apt to pass them by as an inevitable process of decay, partly since they are due to diseases most common in later life, and partly because the pathology is so obscure. But it is not the decrepid only who fall victims. The vigorous, active worker may be struck down in a moment. Even a man with granular kidneys might work and live comfortably for many long years but for a sudden breakdown of his vessels. A convalescent after an illness dies from embolism, or becomes a lacrymose hemiplegic from thrombosis; or, again, a healthy old man after a slight chill or fatigue is attacked with progressive cerebral thrombosis. In certain cases, of course, bacterial infections and the presence of tumours and nerve diseases lead to similar results, but these may to some extent be considered as a separate group. Leaving out for the present these latter, what are the causes of those cerebral hemorrhages, thromboses and emboli? We find certain high tensions, or vascular degenerations, both fibrous and atheromatous, or blood changes, such as increased coagulability, or failing irregular cardiac action, respectively preceding them.

**Forms of increased blood-pressure.**—Besides the cases of high blood-pressure which are connected with renal disease and other known conditions, there are some obscure forms. Graham Steell[1] describes a group of cases most often seen in female patients after the climacteric. The pulse is full between the beats, the tidal wave high and prolonged. Dyspnœa, followed finally by œdema and an enlarged liver, is apt to appear; but the heart is at first neither enlarged or irregular, and there is no murmur. Apparently there may be no kidney disease, but generally much gastric trouble. He advises careful dieting and no farinaceous food after middle day, since the condition depends on a faulty metabolism, which is kept up by ill-digested starchy foods. The discussion started by Clifford Allbutt,[2] on **the rise of blood-pressure in later life,** points to a definite type of disease. He lays down that it exists in two forms: (1) with slack arteries, and (2) with contracted ones; but he thinks that arterio-sclerosis or vaso-constriction are not the chief or primary causes of high pressure even in the latter type. Constriction does not seem to occur in all areas at once, and it is only temporary. He therefore believes that there is some blood change, an increased viscosity which, by the friction it causes, does the work attributed to vaso-constriction. In the long-continued discussion this gave rise to, Broadbent[3]

[1] *Med. Chron.*, 1902-3, 4 s., iv. 161.
[2] *Lancet*, 1903, i. 645. [3] *Ibid.*, 393.

suggested that the increased resistance lay in the capillaries, and that the blood change altered the relation between the blood and their walls; but Allbutt adds that the analogy between these closed vessels and the flow in capillary tubes open to the air is faulty. If the outermost layer of the blood wets the walls of the capillaries, the inner layers slide by on it at a rate depending on their mutual friction or viscosity. Others, again, hold that there is a normal universal tonus or constriction in the arterioles, and that an increase of this causes the high pressure. A. Morison,[1] with a view to solve these questions, asks whether in senile high tension the overgrowth of the connective tissue of the vessels, or the muscular hypertrophy occurs first.

The practical point in Allbutt's address is that we ought to recognise at an earlier stage this rise of pressure, before the whole arterial system has been "strained," and treat it by rigorous diet, suitable exercise and drugs. This recognition can be best made by the sphygmometer, which should not show more than 120 mm. Hg. in a healthy middle-aged man. If treatment is postponed till one is on the verge of apoplexy, relief may be possible, but a cure is not. To discover the early stages of high tension by the finger alone is often difficult. If found it is often put down to Bright's disease, even though definite symptoms are absent, or it is called gout for lack of a better name. Thus he recognises a form of high pressure due to an altered blood state only. This is not caused by, but may lead to, vascular degeneration. Vascular disease, when the result of toxins or of senile decay, does not tend, like this rise of blood-pressure, to hemorrhage, but to thrombotic softening.

As to other causes of excessive tension and their treatment, if kidney disease is present, that must be managed and dangerously high pressures checked. Iodide of sodium may be given for long periods, with intervals of rest. French authorities, in some cases, give a rigid diet of, perhaps, milk every third or fourth week for months or years. Von Noorden,[2] in a most interesting paper, lays down that the amount of fluid taken should be strictly limited, and that a small amount of meat should be allowed regularly, whether red or white meat is immaterial, in chronic kidney disease. When sudden danger from blood-pressure arises, nitrites are, of course, valuable, and their effect is increased, as Lauder Brunton shows, if nitrates are added.

Carter,[3] in recording 500 measurements of pressure by the sphygmometer, finds that sodium nitrite in 2 or 3 grain doses lowers the pressure about 12 mm., but its effects only last one and a half hours. It seems possible, however, that, as in the opposite case of adrenalin, there may be a permanent as well as a temporary action after repeated doses. Of great importance,

[1] *Ibid.*, 614. [2] *Brit. M. J.*, 1902, ii. 1397.
[3] *Am. J. M. Sc.*, 1901, cxxii. 854.

too, are saline purgatives, both to aid elimination and to directly lower pressures. Venesection, with saline injections, is discussed by R. W. Marsden,[1] who takes the view that venesection may relieve an overburdened right heart and temporarily lower pressure, but that if the poison present be an alkaloid, as he thinks it is in the case of uræmia, it is already combined with the tissues and cannot be removed by salines or bleeding. Still, saline injections *per rectum*, or even water at 120° used in the same way, are invaluable diuretics even in uræmic cases. Of course removal of the poison causing the high tension is to be preferred to a direct action on the vascular machinery, because high pressures in themselves may be conservative; but when they reach a danger limit they must be controlled. No one, perhaps, in this country advocates reducing tension by lessening the force of the heart itself, though in America aconite and veratrum are often used.

**Vascular changes.**—As to these, it is useless to say that a man is as old as his arteries, that degenerative changes occur in healthy persons from hereditary causes, and are a natural form of decay. For in the first place most supposed heredities, such as phthisis, turn out to be due to similar surroundings in parent and child, and not heredities at all, so that science has no right to call in heredity as a *deus ex machinâ* to explain facts she has failed to grasp, and, secondly, every workhouse, as Allbutt says, shows plenty of old people with rigid or atheromatous vessels which have not given way. Sometimes these vessels do give way, but not always, and against this we sometimes find **hemorrhages with perfectly healthy vessels and sound hearts**. Endless discussion has taken place on the relation between these vascular changes and high blood-pressures or other blood changes, as to which is the cause of the other, or whether both are effects of a third factor. Degeneration of vessels can hardly be treated while the pathology is so uncertain. Among attempts, however, we may notice Trunicek's serum. He considers that atheroma depends largely on the deposit of calcium phosphate in the vessel walls, and that it is soluble in solutions of sodium chloride, and certain other sodium and magnesium salts. Now, in old age there is a deficiency of sodium chloride in the blood, and he therefore injects subcutaneously a strong solution of these solvent salts. The formula is sodium chloride 10 grammes, sodium sulphate 1, calcium and magnesium sulphate each .75, sodium carbonate .40, sodium phosphate .30; this when mixed is divided into thirteen powders: it may be given by the mouth, rectum, or subcutaneously dissolved in distilled water. Lattes[2] and others report some success from its use in cases of dyspnœa, vertigo, and anginal attacks due to vascular

[1] *Med. Chron.* 1902-3, 4 s., iv. 33.

[2] *Gaz. hebd. de Méd. et de Chir.*, No. 80, 1901; Abstract in *Am. Year Book Med. and Surg.*, 1903.

changes. Rumpf, too, recommends the administration of lactic acid, and the use of a lime-free diet, consisting of meat, fruit, bread, but no rice, milk, eggs, cheese, or cabbage. Haig's dietary may perhaps be considered to act in the same way, as well as in keeping down the pressure.

In syphilis we are upon recognised ground, and the long-continued use of mercury and iodide is known to aid the recovery of damaged vessels.

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**Thrombosis** may be due to vascular lesions alone, as in syphilis, or to changes in the blood and vessels, as in septic cases, or to similar changes combined with a failing heart, as in old age. However, the subject was treated in a recent number of this *Journal*, so that only one or two supplementary points need be referred to now. Just as Allbutt insists that the blood-pressure ought to be frequently measured with the sphygmometer, so A. E. Wright[1] advocates the testing of the coagulability where there is any danger of thrombosis. If normal blood takes five minutes to clot, there is no difficulty whatever in finding out whether our patient has blood which under the same conditions clots in one or two minutes. Thus in aged, feeble, or parturient cases, we should estimate the state of the blood as to its readiness to clot just as we test the urine or the heart's action. Moreover, with the apparatus which he recommends, the process can be carried out in a few minutes, and does not require much skill. If excessive coagulability exists, it may be overcome, in many cases, by giving citric acid and the citrates, and the effect measured and charted frequently. He thinks that hemorrhages in typhoid are often due to the deficient coagulability present, and thrombosis in the convalescent stage accompanies an excessive reaction, which is often present then. Indeed, the juice of two lemons is now given daily to typhoid convalescents in one hospital to prevent this disaster. He suggests, too, that the condition, which was very common in the South African war, may be due to the milk diet and out there to the use of concentrated or condensed milk, which contains so many lime salts, milk having more lime than ordinary lime-water has. The existence of such a tendency can only be known by testing, for a very high excess of lime in the blood lowers the coagulability just as a deficiency does. Of course, this leaves out of view other factors in clot formation, such as septic and other changes in the vessel walls and cardiac failure, but it is quite rational to treat each factor as we are able. Moreover, it is curious that thrombosis occurred just in those cases in which he found an excess of coagulability. In aged patients, with irregular hearts, we must insist on the horizontal posture, give cardiac tonics, administer stimulating food in the small hours of the night when the circulation is apt

[1] *Lancet*, 1902, ii. 11.

to fail, and forbid their standing up to pass water, because thrombosis is apt to occur after a fainting attack, or extra exertion, or during sleep. When a thrombus has formed, if the blood state is favourable it may continue to increase, hence the blood should be tested, citrates given freely if indicated, and complete rest with cardiac tonics ordered. James Taylor [1] speaks of the danger of purgatives lest the blood be rendered less fluid. He even gives much liquid by the mouth, when an aperient is needful, to obviate the same risk.

As to **emboli** and their prevention little can be said, except to emphasise the need of rest in diseases in which they are common, especially after second attacks of endocarditis, and during rheumatism, pregnancy, and lactation. In septic cases much may be done, of course, by early treatment of the source to which they are due, as for instance in mastoid disease.

When the pathology of these vascular and blood changes has made greater advances, more efficient means of prevention will be possible, but at present the loss of life and the human misery they produce are a reproach to medical science.

G. PARKER.

## SURGERY.

A child may develop severe abdominal symptoms with fever, and after these have been present some weeks a large collection of pus may be found in the peritoneum. Such cases are obviously quite unlike septic peritonitis due to infection from the appendix; and although, when the abdomen is opened, no evidence of tubercle may be discovered, yet such cases, in the absence of any other explanation, have generally been regarded as such. We now know that such a condition of purulent peritonitis may be due to infection with the pneumococcus; and cases of **pneumococcal peritonitis** have, during the last few years, been described by several writers.

Dr. Fowler, of Edinburgh, gives [2] a very good description of the disease based on the observations of Michaut on eight cases of his own and the collected records of twenty-six other cases, and also on four cases of Stooss, of Bern.[3] He points out that the disease was first described by Netter in 1890; Michaut's work [4] was published in 1901. The disease may take the form of either an encapsuled collection of pus in the peritoneal cavity or a general suppurative peritonitis; but the localised collection of pus is the more common, the other form occurring in only one-third of the cases. The onset is severe; the temperature rises, and abdominal pain and vomiting are present. These symptoms are, of course, present in peritonitis due to other causes; but a symptom which is very suggestive of the pneumococcal form, and to the presence of which attention has

[1] Allbutt's *System of Medicine*, vol. vii., 1899, p. 571.
[2] *Scottish M. and S. J.*, 1903, xii. 176.
[3] *Jahrb. f. Kinderh.*, October 20th, 1902. [4] *Thèse de Paris.*

been called by Dieulafoy, is the presence of diarrhœa either at the onset or later on in the course of the disease. Great stress has been laid on its value in distinguishing this from other forms of peritonitis. It is, however, well to remember that in an attack of appendicitis diarrhœa is not rarely present at the commencement, and there may be general peritonitis when we see the case. Quite unlike the course of ordinary septic purulent peritonitis, pneumococcal peritonitis may go on for two weeks or more, and then evidence may be present of a collection of fluid in an encysted form within the abdomen, and if not operated on may burst at the umbilicus. This has happened in several cases. Fowler states that vomiting is a constant symptom. In one case of my own, and in some recorded cases, vomiting was only present at the very beginning of the illness, and did not persist. In a few cases in which the peritonitis is general, the disease runs a rapidly fatal course, and the exudation of pus is never very great, but in others, though general, a large collection of pus forms.

Fowler calls attention to the resemblance between the symptoms of pneumococcal peritonitis, and appendicitis, tuberculous peritonitis and typhoid fever. With regard to the differential diagnosis from appendicitis, he says that although diarrhœa does occasionally occur in appendicitis, its presence should lead one to think of the possibility of the case being one of pneumococcal peritonitis, especially if the patient happen to be a girl (for the disease more frequently occurs in girls); but, as I stated before, diarrhœa is by no means a rare occurrence at the commencement of an attack of appendicitis. The presence of marked rigidity of the abdominal wall over the appendix region, of great tenderness there, or of any swelling localised to this region, or present in the pelvis, and felt either through the abdominal wall or *per rectum*, would, of course, be the important indication of the origin of the disease in the appendix; and in any doubtful case, as Fowler points out, the chances of the disease being appendicitis would be great, for the condition is so common in comparison with pneumococcal peritonitis. Hectic fever and collection of fluid in the abdomen would certainly suggest the presence of tuberculous peritonitis; but Fowler suggests that the sudden onset and rapid course would differentiate between the two conditions. The absence of any nodules, lumps, or bands in pneumococcal peritonitis would also be important, though they may not be discoverable in the tubercular affection. Attention is also called to the similarity between the symptoms of pneumococcal peritonitis towards the end of the first week and typhoid fever. The distended abdomen, the diarrhœa, the slightly enlarged spleen are suggestive of the latter disease; and the sudden onset Fowler considers not a rare occurrence in the typhoid of children. The Widal test would, of course, be valuable.

It is a very disputed question as to the mode of infection of

the peritoneum by the pneumococcus. Fowler himself is in favour of the theory of penetration from the intestines, and the presence of diarrhœa as an initial symptom in many of the cases, is certainly suggestive of this source.

The author considers that the prognosis is good if there is an encapsuled collection of pus, and he says Michaut has collected twenty-two cases of this variety, of which twenty-one were operated on with only two deaths; but cases collected from literature are of very little value for such a purpose, as the fatal cases are often not published. But the fatal tendency in the generalised form is certainly indicated by the fact that only two out of eleven cases of Michaut's recovered. Evacuation of the pus in the encysted form, and flushing with saline solution in the generalised variety, should be the treatment.

Nuthall and Billington record[1] five cases of pneumococcal peritonitis: only one case recovered. This was a girl aged 12, from whose peritoneal cavity two pints of pus were evacuated after three weeks' illness with abdominal symptoms. The pus was in the lower part of the peritoneal cavity, and the matted intestines occupied the upper portion. They noted the presence of diarrhœa in three of these cases.

Bryant also has recorded[2] three cases of the generalised form; in two operation was undertaken: all the cases were fatal. The difficulty in the diagnosis of this form of peritonitis in some cases is well illustrated by one of the cases recorded by Bryant, for neither vomiting nor constipation were present, and the condition seemed more like a diaphragmatic pleurisy than a purulent peritonitis. In many of the recorded cases, and in one under my own care, vomiting has been present only at the commencement, or not present at all; and, as already stated, diarrhœa is frequently present.

If the collection of pus within the abdomen is not evacuated it tends to discharge at the umbilicus, and several cases have recovered after this. Dr. Ashby[3] records such a case. The child had double pneumonia, followed by empyema and a large collection of pus in the abdomen, which began to discharge at the umbilicus. In this case pneumococci were not found in the pus from the peritoneum, but they were in the pus from the empyema, and Ashby suggests both conditions were probably pneumococcal in origin. The umbilical opening was enlarged and a drainage-tube inserted, and the child recovered. Dr. Ashby refers to three cases of Broca's,[4] a French physician, in which also spontaneous discharge took place in the umbilicus, with recovery in two of the cases.

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The results of **the surgical treatment of ascites due to cirrhosis of the liver** have been investigated by Greenough,[5] who collected

[1] *Birmingh. M. Rev.* 1903, n.s. i. 5. [2] *Brit. M. J.*, 1901, ii. 767.
[3] *Lancet*, 1902, i. 1096. [4] *Arch. de Méd. d. Enf.*, May, 1901.
[5] *Am. J. M. Sc.*, 1902, cxxiv. 979.

the records of 105 cases operated on by the method adopted by Morison,[1] or some modification of it. The operation is undertaken to cure the ascites of cirrhotic liver, and consists in attaching the omentum to the abdominal wall so as to establish a collateral circulation. The author finds that 58 per cent. of the cases were not improved, and of these 29.5 per cent. died within thirty days of the operation. The chief causes of death were shock and exhaustion and peritonitis, but in two cases death was due to intestinal obstruction. Of the forty-two cases improved by the operation, in many the case was published very soon after the operation, and in only nine was continual improvement reported as long as two years after operation. Greenough noted that cases of suture of the omentum between the layers of the abdominal wall did better than those in which there was intra-peritoneal attachment of the omentum.

In considering the advisability of performing this operation, we must not only take into consideration the high mortality and uncertain result in cases which survive, which Greenough has shown to exist, but we must remember that there are channels by which collateral circulation may be established without the production of adhesions. These (described by Sappey) are referred to by Drummond and Morison in their paper[2] in which they advocate the performance of the operation.

Greenough also refers to another method of treating cirrhotic liver—the operation of establishing an opening from the gall-bladder for drainage. Of this operation there are seventeen recorded cases, but there seems no evidence in support of the theory on which it is based, and its beneficial effects are very doubtful.

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Although **Volkmann's contraction**, or **ischæmic paralysis**, was described by Volkmann as long ago as 1875, very little is generally known about it. Mr. Leonard Dudgeon[3] has collected the recorded cases, and given us a summary of the pathological changes and symptoms. The essential condition is contraction of the muscles of the forearm leading to flexion of the fingers, and inability to extend them. In the great majority of cases it has come on after the very tight application of splints for an injury, generally a fracture, and in many cases the evidence of the pressure exercised by the splints remains in the form of a pressure-sore near the bend of the elbow. In one case it followed the use of Esmarch's bandage, applied for a little more than an hour, and in another was due to thrombosis of the axillary artery. All the cases are described in Mr. Dudgeon's paper. The term ischæmic paralysis expresses the most frequently accepted views as to its causation. A fibroid change has been found in the muscles in some cases in which an operation has been undertaken to cure the

[1] *Brit. M. J.*, 1896, ii. 728. [2] *Loc. cit.* [3] *Lancet*, 1902, i. 78.

contraction. The contraction may come on within twenty-four hours. Unlike contraction following some forms of paralysis, in this condition it is present from the first. The fingers are strongly flexed at their last two joints, and cannot be extended. The wrist-joint is extended in the less severe cases, flexed in the worst cases. In those cases in which the wrist is not retained in the flexed position, by flexing the wrist the flexed fingers can be somewhat extended. The hand may be fixed in pronation, and the forearm in slight flexion. Some lesion of one or more nerves may or may not be present. If present, sensation may be affected. A nerve lesion must be regarded as a complication, and not as the cause of the disease, which is of the nature of a "myositis" or sclerosis of the flexor muscles. The author refers to a statement of Volkmann, that the prognosis in this condition is bad; but he has had experience of several cases which in the course of a few years quite recovered. In the treatment of this condition, forced extension of the fingers does not seem to lead to any good result. In one case portions of the bones of the forearm were excised in order to lessen the tension of the flexor muscles: this result was obtained, but the bone only united by fibrous tissue. The best operative procedure seems to be lengthening the contracted tendons by splitting them longitudinally and then uniting one section to the end of the other. Some of the cases which have recovered in a year or two have only been treated by massage.

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Mr. Montgomery has published a valuable paper [1] on his experience of twenty-five cases of **tendon grafting for paralytic talipes.** He prefers not to divide the tendon of the active muscle, except in the case of the extensor of the great toe, the action of which can, he thinks, be performed by the tendon of the extensor brevis, but advises that a slip should be taken from the tendon of the active muscle and attached to the divided end of the tendon of the paralysed muscle, for he thinks this a better plan than grafting it on to the side of the tendon of the paralysed muscle, or the grafting of the cut end of the tendon of the paralysed muscle on to the side of the tendon of the active muscle. His preference for this method is due to his experience that, if adopted, quicker and better results are obtained. As he points out, however, one must be convinced that no spontaneous improvement can take place before dividing the tendon of the paralysed muscle. In cases in which he has grafted a slip from the gastrocnemius or soleus to the paralysed dorsi-flexors improvement was very slow. He was here grafting the tendon of an antagonistic group of muscle, and in such a case a really good result is only with difficulty obtained, but he says that, although slowly, such cases did steadily improve after operation.

C. A. MORTON.

[1] *Med. Chron.*, 1902-3, 4 s., iv. 97.

## OBSTETRICS AND GYNÆCOLOGY.

**Puerperal eclampsia** as a complication of labour is one of the most difficult subjects to deal with, on account of the great complexity of its pathology and of the numerous visceral lesions which accompany it. Our knowledge concerning it has advanced but little, in fact, is but little in advance of that of thirty years ago.

Bandler[1] shows that most of the theories which have been advanced as to its causation can be demonstrated to be incorrect, *e.g.*, the mechanical, uræmic, hydræmic, and anæmic theories, as to the causation of the affection, and the convulsions can be shown to have no solid basis. That irritation of the cerebral cortex has some influence in producing the convulsions is certain.

Blumreich and Zuntz[2] experimented on rabbits by applying kreatin to the motor areas of the cortex after removal of the bone and dura mater under anæsthesia. Convulsions occurred in all gravid animals, but in only 2 to 3 per cent. of the non-gravid, while it required three times as much kreatin in the non-gravid as in the gravid to produce convulsions. Injection of a solution of kreatin into the external carotid produced the same results.

"The central nervous system is therefore in a condition of extreme irritability during pregnancy."

Müller[3] observes that in eclampsia there is a rise in temperature, which increases with the frequency and severity of the convulsions, and sinks in the intervals between them. He also notes that epileptics are not specially liable to eclampsia.

He explains the symptoms on the theory of resorption fever, the poison being due to bacteria acting on uterine substances, causing their decomposition with the subsequent absorption of toxins into the circulation. The good results of intra-uterine death he attributes to diminution of intra-uterine pressure and consequent diminished absorption of toxins.

The frequency in primipara he attributes to the increase of intra-uterine pressure, due to the resistance of unstretched uterine muscle. He calls the kidney affection a toxic irregularity. Stroganoff[4] believes eclampsia to be an infectious disease, the contagion entering through the lungs. The incubation time is short—from five to twenty hours. It is especially liable to occur in lying-in hospitals. He considers it to be a constitutional disease and not a local one, and also independent of lesions of the kidney. He also believes that the contagion is caused by the medical attendant or nurse. He considers the important points to be the diminution of the convulsions, and relies on oxygen, morphia, chloral, and rapid delivery to effect this:

[1] *Am. J. Obst.*, 1903, xlvii. 433. [2] Quoted by Bandler, *loc. cit.*
[3] Quoted by Bandler, *loc. cit.* [4] Quoted by Bandler, *loc. cit.*

œdema of the lungs must be carefully guarded against. The pathological lesions of eclampsia are distinct and simulated by no other condition.

Schmorl goes so far as to say that cases occur in which death takes place without convulsions, *e.g.*, from coma and œdema of the lungs, and that these cases are truly eclamptic, because the pathological lesions present are those met with in eclampsia. On the other hand he excludes fatal convulsive cases in which the pathological lesions are absent. The lesions are—

(1) *Kidneys*: parenchymatous degenerations, glomerulitis and thrombi; (2) *Liver*: multiple hemorrhages and necrosis, and thrombi in the extra and intra-lobular branches of the portal vein; (3) *Heart*: hypertrophy of left ventricle, multiple hemorrhages and necrosis, and parenchymatous degenerations; (4) *Lung*: hyperæmia and œdema, thromboses and placental cell emboli; (5) *Brain*: punctate hemorrhages and areas of degeneration; (6) *Pancreas and adrenals*: hemorrhages and necroses.

Bile pigment is often present in the blood of eclamptics. Dienst[1] finds that similar lesions are present in both mother and fœtus. The fœtal kidneys scarcely secrete or perform any important function. *After birth*, however, the kidneys often prove to be unhealthy, albumin, hemalbumin and casts being found in the urine. He finds the amount of fibrin in the blood of eclamptic mothers and infants to be increased. He refers the cause to the fœtus, because the symptoms so often cease after delivery. This view is insufficient to explain those cases in which eclamptic seizures comes on after delivery.

Bandler[2] considers that the source of the substance which produces the lesions is to be found either in some structure of the patient herself, or in some element of the ovum. In the case of the one, the placenta and the fœtus itself; in the other, *the ovary*, since it is that organ whose excretion is inhibited by pregnancy, should be considered. He presents the following propositions—

(1) That the trophoblastic cells pass into the circulation; (2) that these constitute a placental secretion; (3) that the destruction of the trophoblasts indicates an antagonistic action of the maternal blood; (4) that we may grant that the fœtal and maternal elements both possess mutually destructive enzymes; (5) and that the production of eclampsia is a constitutional pathological malrelation between the maternal and fœtal enzymes.

Bandler allows that, even supposing that this proposition, namely, the antagonism of the fœtal and maternal enzymes is proved, we have yet to find definitely the productive element of eclampsia. He indicates that it is to be found in the absence of the regulating power of ovarian secretion.

Hence the eclampsia is the result (1) of a pathological

[1] Quoted by Bandler, *loc. cit.* [2] *Loc. cit.*

placental (excess), or ovarian (diminished) secretion, (2) a failure of antagonism between the two, and is in the truest sense an auto-intoxication. He also refers to the antagonistic action in many ways of ovarian and thyroid extract.

Partridge [1] sums up our knowledge of the pathology of eclampsia as follows: a toxæmia brought about by a changed metabolism of the liver and perhaps of other organs, and by a deficiency in excretion, and that *acetone* is one of the most active of the toxic products. He enlarges on the pathological *post-mortem* findings which have been already described by Bandler: as regards the pathology he shows no fresh evidence.

Aspell [2] investigates the question of constipation as an etiological factor in the production of eclampsia. He discusses the various etiological theories, and dismisses them on the ground that no single one will produce the eclamptic condition by itself; in particular, he calls attention to the important fact that kidney insufficiency alone is not a satisfactory explanation, and that convulsions have been known to occur in the fœtus of an eclamptic mother. He draws attention to the pulse and its tension as an indication of approaching danger, and cites a case in which with albuminuria higher pulse tension and headache appeared. He treated her by free catharsis, and even after twelve days purgation and a limited fluid diet she passed dark-coloured scybalous masses. (He examined the stools each day). He alludes to the well-known fact that eclamptic convulsions often occur after a heavy indigestible meal. He reports six cases, and in all of them marked constipation was present. He is of the opinion that the primary lesion is probably one of the liver.

A. Ascoli,[3] with a view to throwing new light upon the etiology of eclampsia, has conducted a series of interesting experiments. He immunised rabbits by injection or infusion of the placentæ of guinea-pigs, and also in another series by injection of the placentæ of their own series, and thus obtained two sera which he calls hetero-syncytiolysin (from guinea-pigs), and iso-syncytiolysin (from rabbits). He found that the syncytio-toxins resulting from the injection of placental tissue into the circulation can cause symptoms resembling those of eclampsia. This rather suggests that the idea which Bandler promulgates, that eclampsia depends in some way on the absorption of syncytial products, has a definite foundation, although the evidence does not appear convincing. The hetero-syncytiolysin produced by far the graver symptoms.

The idea that eclampsia is a renal disease pure and simple is now almost universally abandoned, and it is generally allowed that the condition is due to a toxæmia, the exact nature of

[1] *Am. J. Obst.*, 1903, xlvii. 313. [2] *Ibid.*, p. 483.
[3] *Centralbl. f. Gynäk.*, 1902, xxvi. 1321; abstract in *Am. J. Obst.*, 1903, xlvii. 558.

which is unknown, and that the failure of the various excreting organs, the liver, kidneys, lungs, and skin, to eliminate the toxin or toxins is the exciting cause of the affection.

The kidneys, after the failure of the liver to deal with a toxin circulating in the blood, become irritated and injured, so that they fail in their proper function, and, owing to defective secretion, urea is added to the other toxic elements circulating in the blood, while albumin appears in the urine. If the condition be not relieved eclampsia is one of the results which follow. This hypothesis, however, probable though it seems, is not sustained so far by conclusive experimental proof. The view that eclampsia is of bacterial, or rather of micro-organismic origin, has been again revived, it being attributed by Müller[1] to intra-uterine bacterial infection and analogous to septicæmic conditions. Albert[2] takes practically the same view, regarding the infection (?) as being due to the cessation of uterine drainage by the closure of the canal during pregnancy and raising of intra-uterine tension. Neither Müller nor Albert state what variety of micro-organism they have found in the cases which they examined, and their position must be looked upon as one very difficult to prove definitely. H. Oliphant Nicholson[3] believes that the principal symptoms of the eclamptic state are due to thyroid inadequacy. He shows that the normal enlargement of the thyroid gland present in pregnancy can be diminished or prevented by the administration of thyroid extract, and Lange has observed that albuminuria and eclampsia occurred in twenty out of twenty-five cases in which the usual thyroid hypertrophy did not occur. Iodothyrin favours metabolism and increases the excretion of urea, which, in eclampsia, is strikingly diminished, and, owing to a deficiency of iodothyrin, nitrogenous metabolism stops short of the formation of urea at a point where the products of metabolism are highly toxic.

The clinical features of eclampsia have such a marked resemblance to athyroidea that it may be regarded as a temporary form of the latter, and, while the athyroidea lasts, nitrogenous substances, owing to the inability of the liver and other organs to form urea, are turned into toxins, which injure the kidneys and still further diminish the urea excreted.

Iodothyrin is a diuretic and powerful vaso-dilator; hypothyroidism is always associated with contraction of the arteries, eclampsia almost invariably so, hence the toxæmia of pregnancy appears to be dependent upon the quantity and activity of the thyroid secretion, and the thyroid gland may be given a primary *rôle* in the causation of eclampsia.

Now, to sum up the results of these investigations. First, as usual, prevention is better than cure, and a recognition of the fact that the appearances of toxæmia and the pre-eclamptic stages are capable of diagnosis is most important. Many, if not

[1] Quoted by Fothergill, *Practitioner*, 1903, lxx. 219.
[2] *Ibid.*, p. 220. [3] Quoted by Fothergill, *loc. cit.*, p. 221.

most, of the minor disorders of pregnancy indicate toxæmia, as for instance vomiting, constipation, indigestion, headache, nervous irritabililty, disturbances of vision, and abnormal pigmentation, accompanied by constriction of the smaller blood-vessels and rise in blood-pressure, diminution in the quantity of urine passed and in the quantity of urea excreted. Albuminuria and œdema are more definite and more alarming signs, but an attempt should be made to make a diagnosis before their appearance. Too much stress cannot be laid on the importance of quantitative estimation of urea in every suspicious case. A very good rough rule is this, "that in any case in which the daily excretion of urea falls below 200 grains, the question of terminating pregnancy, if the condition does not improve under treatment, should be considered."

Nicholson would in every case, when the symptoms mentioned as belonging to the pre-eclamptic stage were present, at once commence the administration of thyroid-gland extract, grs. v. twice daily; and in his reported cases it was remarked that the symptoms of toxæmia recurred whenever the thyroid treatment was stopped, and disappeared again when it was recommenced. This is noteworthy as a piece of good experimental evidence. On this evidence alone one would feel inclined to make use of this treatment, of course as a supplement to purgation, fluid diet, and rest in any case in which the usual thyroid enlargement was absent. Aspell's cases simply furnish additional evidence as to the danger of constipation.

Bandler's opinions, taken with the experiments of Ascoli, would seem to show that the termination of pregnancy as a prophylactic is justifiable and necessary. We cannot regard the evidence produced by either as conclusive, although no doubt their researches are of importance, and, granting even a very limited amount of truth in the conclusions they draw, these certainly give a rational basis for the termination of pregnancy.

Next comes the question of the treatment of cases already in labour. Are we to proceed to extract, regardless of the shock caused,—a factor by no means to be neglected,—or to endeavour to make use of treatment by medical means alone? We should incline to a middle course, and do both. At the Bristol Royal Infirmary we have made a point of the following combination of methods when convulsions have commenced, and the patient is in labour: Venesection in all cases when there is any tendency to cyanosis, saline irrigation of the rectum, and saline injection into the subcutaneous tissue; the administration of morphia and of chloroform, if any manipulation is to be undertaken, and the hot, wet pack. Veratrum viride hypodermically certainly reduces the pulse-rate, but does not strike us as an essential method of treatment, or by itself one of much use, since we should consider the rapid pulse a symptom of the toxæmia. (A large mortality will at present

invariably be met with in eclampsia no matter what treatment is made use of.) Labour we usually induce by manual dilatation of the cervix. Bozzi's dilator we have used and recommend, provided it is not made the means of producing full dilatation, since this, we think, is the point at which its use becomes risky. We complete dilatation by the hand after commencing with the dilator; in cases of rigid cervix it will be found a valuable instrument. We always hope for *post-partum* hemorrhage, but so far without success, although we have repeatedly endeavoured to cause it by the use of warm intra-uterine irrigation. In prophylaxis we induce labour if in pregnancy the excretion of urea remains below 200 grains per diem for three days in albuminuric cases.

It may be noted that all the drugs and methods employed are vaso-dilators, or lower pressure, *e.g.*, morphia in large doses, veratrum viride, and thyroid extract. Venesection and saline injection both lower blood-pressure.

We may sum up by saying: (1) Prophylaxis is best carried out by careful search for the symptoms of the pre-eclamptic stage, and appropriate treatment (purgation, restricted diet, diuretics and rest); (2) To deal with the convulsive stage, vaso-dilator drugs should be administered, and measures taken to lower blood-pressure; (3) Labour when begun should be terminated as rapidly as possible under anæsthesia; (4) If not begun should be induced if treatment has no effect, but that delay in waiting for the effect of treatment is risky unless the case is a mild one.

WALTER C. SWAYNE.

## Reviews of Books.

**The Work of the Digestive Glands.** Lectures by Professor J. P. PAWLOW. Translated by W. H. THOMPSON, M.D. Pp. xii. 196. London: Charles Griffin & Company. 1902.

This book contains a quantity of new and original work on the digestive functions; the conclusions have been arrived at by very ingenious and elaborate methods of experiment. One of the most interesting and novel points brought out by these observations is the very striking range of variability and adaptation to the varying needs of digestion displayed by the gastric and pancreatic secretions. Thus, although the acidity of the former appears to be constant when secreted, the total acidity of the gastric contents can vary by means of alterations in the quantity of gastric juice poured out. Further, if one kind of foodstuff predominates in, or forms exclusively, the diet of an animal for some time, the ferment concerned in the digestion of that foodstuff is increased in quantity, while the others diminish.

Possibly this is the explanation of the transitory dyspepsia which is apt to intervene on a sudden change from a long-accustomed diet.

The secretion of one digestive juice seems to stimulate by a beautiful mechanism the secretion of the next one, which, in a succeeding portion of the alimentary tract, is to carry the food a stage further in the process of digestion. Thus the water of the saliva stimulates a flow of gastric juice, and the secretion of H Cl by the stomach is a powerful stimulus to pancreatic secretion. The author suggests that the Na derived from the Na Cl broken up to form H Cl in the stomach, may be utilised in the production, shortly afterwards, of the alkaline pancreatic juice. The author looks upon the mechanism of secretion in stomach and pancreas as a reflex one, through stimulation of the peripheral nerves, and gives experiments to prove that the vagus is the nerve of secretion for both organs. The recent observations of Starling on the formation of *secretin* in the duodenum and its influence upon pancreatic secretion prove, however, that in this particular case the secretion is not a reflex nervous one, and it is possible that this may yet be proved for other secretions.

Of interest to medical practitioners are the importance of appetite, that is, of the "psychical factor," in promoting an adequate flow of gastric juice, and the justification of certain time-honoured procedures in matters of diet. We already owe to Sir Wm. Roberts's writings the recognition that many dietetic customs were based on sound physiological fact, and we learn again in this work that the medicinal use of bitters is justified by the flow of gastric juice they promote, that meat extracts form one of the most potent stimulants to this secretion, hence the *rationale* of beginning dinner with soup, and that the ending of the meal with sweats is useful, as, not being digested in the stomach, they make no further call upon this organ for digestion, whilst their agreeable taste promotes a fresh flow of gastric juice at a time when it would otherwise be falling off.

We have mentioned a few points of interest, but the book itself should be read by all medical practitioners: it is well written, most interesting and suggestive, and its perusal will lead to a better understanding of digestion, and to better treatment of its pathological disorders.

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**Diseases of Metabolism and Nutrition.** By Prof. CARL VON NOORDEN. Authorised American Edition. Translated under the direction of BOARDMAN REED, M.D. Part I.—*Obesity: the Indications for Reduction Cures.* Pp. 59. Part II.—*Nephritis.* Pp. 112. New York: E. B. Treat & Company. 1903.

The first of these books deals succinctly and sensibly with the indications for reduction cures in obesity. The advice given is

based on scientific principles, and is eminently characterised by its practical character and common sense. A series of sections deal with obesity when it occurs as a complication of other diseases: perhaps the section on obesity in connection with diseases of the circulatory system is especially valuable. The book is quite short, and deals with first principles only; but we think every medical man who has mastered its contents will be better able to give sound advice to his obese patients. To many its value would have been increased by a second part dealing with the details of reduction cures, but this subject is apparently to be discussed in a later volume.

The second volume, on *Nephritis*, we have read with much profit. Although longer than the first, it is quite a small book, but contains a quantity of information. The routine and rule-of-thumb methods of treatment of kidney diseases, still too much in vogue, are here shown to be false in principle and disastrous in practice. The author especially points out that the exclusive milk diet has been carried much too far, that milk in too large quantities in Bright's disease is injurious to the kidneys, and that discrimination in diet so as to adapt it to the conditions present in different forms and stages of kidney disease is essential to success in treatment. He strongly advocates the restriction of fluids in acute nephritis, and, under certain conditions, in contracted granular kidney; at other times he agrees with the administration of water freely, and gives clear indications, based on careful observations, for this mode of treatment. Another common mistake is here pointed out, that is, the continuation of vapour baths after œdema has disappeared and there is free diuresis. Further, he shows that the common belief that white meat is less injurious than red has no clinical facts to support it. This book can be strongly recommended; no one can fail to learn something from it, and it is evidently the outcome of a wide experience, mature study, and a sound judgment.

Pages 60 and 68 are misplaced. The translation of both volumes is only very moderate.

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**A Brief Manual of Prescription Writing.** By M. L. NEFF, M.D. Pp. 72. Philadelphia: F. A. Davis Company. 1901.—This is a collection of notes, arranged to enable those ignorant of Latin to write an intelligible and correct Latin prescription. It consists of seventy-two pages of text, and rather more of blank forms for the reader's collection of prescriptions, the text comprising a treatise on prescription writing, together with tables of doses and incompatibles; so that the writer has not given himself too much space. However, his work is very carefully and accurately done, and the inflexions of a remarkable number of medical names are given. When we remember that these are derived, not only from Latin, but also from Greek, mediæval, and modern

sources, it is clear the task is not an easy one. How many of us can give correctly the genitive of rhus, statice, cocos, or the gender of æther, carbonas, hedeoma? The author favours the rule of writing terms in the metric system with capitals, and those in apothecaries weight with small letters, to prevent confusion, as in the serious difficulty between grains and grams. A list of Latin numerals should have been included, and a much fuller vocabulary given. Elaterium and elaterinum should be added to the list of easily-confused words, and many authorities would demur to the rule that a hypodermic dose should be half that which is given by the mouth.

**Transactions of the Otological Society of the United Kingdom.** Vol. III. London: J. & A. Churchill. 1902.—In this volume are recorded the proceedings of the Otological Society in its third session, that of 1901–1902, together with a list of the officers and members of the Society, and of its rules and regulations, etc. The Society, though in the words of its President, Professor Urban Pritchard, hardly yet out of the stage of infancy, had at the beginning of this session eighty-two members, and other members have since been added. As only those who have made otology a special study are eligible for membership, we consider the Society has made an excellent start. The most important paper in the present volume is Arthur Cheatle's now well-known "Report of an Examination of the Ears of a Thousand School-children." The otological examination of these children, who were pupils of the Hanwell District School, showed that no less than 520 of 1,000 were considerably deficient in hearing power. Cheatle writes: "It was little less than appalling to realise that 335 out of the 1,000 children examined were, or had been, the subjects of discharge from one or both ears; 88 of these might be spoken of as walking on the edge of a precipice, and 6 as being at least half over." In the discussion on this report, George Murray and Drs. Permewan and Macnaughton Jones contributed statistics of a similar grave import. The Society, on the strength of this, unanimously resolved to urge the central education authorities to take steps to have the ears of all children attending the State schools thoroughly and systematically examined and treated. All the papers reported in the transactions are of importance and interest to otologists.

**The Ambulance in Civil Life on Land and Sea.** By REGINALD HARRISON. Pp. 39. London: John Bale, Sons & Danielsson, Ltd. 1902.—This interesting pamphlet, which has reached its fifth issue, was originally delivered as a Presidential Address at the Liverpool Medical Society. It originated in journeys the author took to the United States and Canada, where he was much struck with the very effective street-ambulance service in connection with the hospitals, and reflected on the insufficiency of such appliances in this country. He gives an account of the

working of the system, which is interesting and instructive, and brings it forcibly before us how much we are in need of such a system here, not only for dealing with street accidents, but for private invalid transport. It is really astonishing how we are satisfied with our existing means of dealing with such cases. A surgeon who sees an acute abdominal case which has to be immediately removed to a hospital, can obtain no effectual means of transport, no stretcher to carry the patient from his house: he must be carried downstairs anyhow, handled with much inconvenience into a cab, and as clumsily handled out again at the other end. The annual cost of such an ambulance, with man and horse, is estimated at £227 a year, but in moderate-sized towns the man and horse could be employed otherwise when not engaged in ambulance work, so that the cost need not be so much. There surely would be demand for its use at a charge among the wealthier class of patient. We are pleased to learn that the St. John's Ambulance Association provide some such system in our own city.

**Official Year-Book of the Scientific and Learned Societies of Great Britain and Ireland.** Nineteenth Annual Issue. London: Charles Griffin and Company. 1902.—It is impossible that a work of this kind shall be year by year correct if the secretaries of the various societies do not give themselves the small trouble of correcting the annual return. The Bristol Literary and Philosophical Club has the name of a deceased secretary, and a "No return," with a star indicating the absence of such return for two years.

**Physician and Friend.** Edited by GEORGE SMITH, C.I.E., LL.D. Pp. 218. London: John Murray. 1902.—This is an autobiography of Alexander Grant, F.R.C.S., who for many years took an active part in the organisation of the Medical Service of India, and who was a personal friend, as well as medical attendant, of the Marquis of Dalhousie. To this latter fact we owe much of the interest of the volume, for we get an excellent outline of the character and work of the famous Governor-General, told in plain but graphic language. The rest of the book is made up of an introductory chapter on the Medical Service of the East India Company and numerous letters from Lord Dalhousie. There are half-a-dozen portraits and illustrations. Dr. George Smith, who was formerly India correspondent of *The Times*, has done his editorial work well, and the book is as readable as such biographies usually are. Grant was brought into contact with many men whose names are associated with the growth and maintenance of our Indian Empire; and he was actively engaged as military surgeon in the first Chinese war, where he became practically acquainted with military surgery. The whole is a record of a useful and honourable life, not of brilliant achievement or of genius, but of steady perseverance and devotion to duty; and is valuable for the sidelights it throws on Indian affairs during an eventful period.

**Regional Anatomy.** By RICHARD J. H. BERRY, M.D. New and Revised Edition. 3 vols. Edinburgh: William Green and Sons. 1902.—This work is published in three volumes. Vol. I. comprises the upper and lower limbs, Vol. II. the abdomen and thorax, and Vol. III. the head and neck. It is intended as a reliable introduction to the science of human anatomy, and is to be completed by two additional volumes dealing with the central nervous system and the joints and special senses. Each volume averages about 200 pages, is devoid of illustrations, and is interleaved with the object of compelling the student to furnish his own drawings. This is an excellent system, and we are glad to hear that this procedure has been proved to work most satisfactorily. The customary guides to the dissector are omitted, but we think this omission a distinct defect. Much care has evidently been bestowed upon the work: it is well printed and well-arranged, and the reputation of its author ensures the accuracy of its contents. We can confidently recommend it to students, and more particularly to those who are able to sketch what they observe, and so make for themselves the most valuable of all anatomical atlases.

**A Handbook of Surface Anatomy and Landmarks.** By BERTRAM C. A. WINDLE, F.R.S., M.D. Third Edition. Pp. xiii., 141. London: H. K. Lewis. 1902.—We have already reviewed the second edition of this practical manual,[1] and are glad to see that it is meeting with the success it deserves, especially considering the vast importance of a knowledge of surface anatomy. The most recent surgical methods are naturally apt to escape the notice of the pure anatomist: we may therefore be excused for calling attention to the fact that the lumbar route for colotomy is not now usually employed.

**Outlines of Practical Physiology.** WILLIAM STIRLING. Fourth Edition. London: Chas. Griffin and Co. Ltd. 1902.—This is still the most complete and best-illustrated text-book on practical physiology, and to this, the fourth edition, there have been made several additions to keep the book up to date. The principal additions have been made to the chapters on the special senses, making the book of greater value to the student of experimental psychology, and the mention of cryoscopy and Mackenzie's clinical polygraph will show how Professor Stirling bears in mind the needs of the medical student. We regret to note several errors that should have been corrected in this edition. Thus the graphic representation of the spectra of HbO and Hb are still transposed as in former editions. We are still told that Schulz recommends the precipitation of primary albumoses by half-saturation with $(NH_4)_2S$. The spectrum and composition of urobilin is said to be "practically identical with choletelin, $C_{16}H_{18}N_2O_3$," and a distinction is still drawn between normal and febrile urobilin. Under the tests for globulin in

[1] *Bristol M.-Chir. J.*, 1897, xv. 192.

urine some mention should have been made that half-saturation with ammonium sulphate brings down primary albumoses also. No qualification of the word peptonuria is made, and no mention of deutero-albumose under this head. We should have welcomed a more full account of the tests in everyday use for the examination of gastric juice, the methods of recognising pentose and other sugars than glucose in the urine, and some description of the reaction of degeneration.

**Aids to Dental Anatomy and Physiology.** By ARTHUR S. UNDERWOOD. Second Edition. London: Baillière, Tindall & Cox. 1902.—The author states in the preface that this edition of his little work "is practically a new book. Not only has almost all of it been re-written and brought up to date, but the scope of the work has been enlarged." In this improved form the book will prove of great assistance and interest to those who wish to acquire "up-to-date" knowledge in the study of dental anatomy and physiology. The dental student especially will find it a most desirable book to read before going up for examination, as it emphasises all those facts he has been trying to master during his curriculum; and the practitioner will appreciate it, as recalling to his memory the results of his own studies and observations ably expressed. The chapter on the nature of the teeth shows one that the author has made a special study of comparative anatomy; that on the development of the teeth, the enamel organ, the dentine organ, and the cement organ fully explains nature's own methods and procedure. The calcification of the dental tissues is most clearly explained, so that it can be readily understood that any flaw in the process of calcification, especially at the junction of the enamel and dentine, is a predisposing cause of caries. The latter part, on practical dental microscopy, is well expressed, and describes clearly the way to make both hard and soft sections of teeth, and enters fully into the methods of staining and setting them up. Having said this much, we recommend the book to the profession for perusal and study.

**Anæsthetics.** By J. BLUMFELD, M.D. Pp. 109. London: Baillière, Tindall & Cox. 1902.—Dr. Blumfeld is to be congratulated upon the clear and thoughtful way in which he has laid before his readers the practical points bearing upon the administration of anæsthetics. By carefully arranging his subject and by tabulating the more important details, as well as by providing an excellent index, the author has made the book efficient for teaching purposes and convenient for reference. There is a statement on page 11 which calls for comment. Chloroform with a specific gravity of 1.5 is recommended, and the addition to it of slaked lime is mentioned as a preservative. Since Professor Ramsay's paper on the subject in the *Lancet* of 23rd January, 1897, many experiments have been conducted by David Brown, F.C.S., F.R.S.E., and his conclusions were

published in the *Pharmaceutical Journal* of 24th December, 1898, and seemed to prove beyond a doubt that the presence of slaked lime accelerated decomposition of chloroform, and that the drug with a specific gravity 1.5 deteriorated in five days, whereas chloroform with a specific gravity of 1.49 remained unchanged for many weeks. The reference made by Dr. Blumfeld to carbonyl chloride will, however, suggest to all students the necessity of becoming acquainted with the smell of this product of decomposition, so that its unwelcome presence may readily be detected. Every italicised sentence throughout the book should be carefully noticed, especially the one which occurs upon page 17. On page 33, "amyl nitrate" is, of course, a misprint for "amyl nitrite." We heartily recommend this book as being full of practical information set forth clearly and concisely.

## Editorial Notes.

**The XIVth International Congress of Medicine.**—Bristol was represented at this Congress by two members of the Editorial Committee of this *Journal*, and as delegates of the Bristol Medico-Chirurgical Society they had the honour of being received by His Majesty King Don Alphonso XIII. and his august mother. The Iberian peninsula is by no means a convenient region for an International meeting; but, nevertheless, the number of delegates and members inscribed at Madrid shows no indication of any diminution in the popularity of these triennial meetings.

For many years the reception of this Congress has indicated a growing rivalry between the different nations. We well remember the enthusiasm with which our Prince of Wales and the Crown Prince of Germany were received in St. James's Hall at the opening meeting of the great Congress in London in 1881; so it has been at each succeeding meeting; and it may be said of the Madrid meeting that the royal reception given by the King and the Queen mother were of the most cordial and flattering description. This has been perhaps the most striking feature of the meeting, for there has been no sensational scientific discovery announced. Some degree of sentiment seems to have attached itself to this meeting in

Spain: the question has frequently been asked, "Why go there to the land of toreadors and cavaliers, the land of ballads and romances, the land of castles and cathedrals, of fretted stone and age-toned pictures? What has it to do with microbes and antiseptics? And yet, the modern heroes of science have all been there, and have been fêted and honoured and presented at Court, and the queer world-jargon of many tongues proclaiming the new discoveries of medicine have sounded in the very halls where were once discussed the discoveries of one Columbus and the value of the Inquisition."[1] The historic city has justified its old reputation for courtesy and hospitality, and those who were present will have carried away with them many pleasant memories of the present age and many reminiscences of the glories of the past. Surely it is unnecessary to question the value to the world of meetings like this! Even if no new scientific progress appears to be made, the nations and the individual members cannot but profit greatly by such international conference and good fellowship.

Of the difficulties by the way—difficulties of language, difficulties of travel and such like,—many critics have written; but the well-organised party arranged by Mr. J. Y. W. MacAlister, on behalf of the Royal Medical and Chirurgical Society of London, gave its members every luxury with the minimum of the discomfort necessarily associated with long railway journeys. The Sud-express from Paris is a train which cannot well be surpassed, and beyond the frontier it should be remembered that an elevation of 2,000 feet is necessary to cross the Pyrenees, and that that elevation becomes over 5,000 feet in crossing the Sierra de Guadarrama, after which the railway drops to 2,400 feet at Madrid. As regards the language, it is not sufficiently realised that Spanish is perhaps the most widely-spoken next to the English, and that a little knowledge of the language is always to be desired by those who visit any foreign country.

On arrival in a new city on business of this kind, the first obvious duty of a delegate or member of Congress is to report himself at the official reception-room, and get his tickets and

[1] *Med. News*, 1903, lxxxii. 846.

programme of the proceedings. Here arose the first difficulty in Madrid; for on endeavouring to reach the spot arranged for the letter K, indicated by one's previously received ticket, it was found to be impossible to get there without a contest worthy of a game of football. On arrival there a very leisurely official, smoking his cigarette, was able to find your name after a prolonged search, and he then handed you the badge of the delegate and the two invitations of His Majesty the King. Other information would be forthcoming "mañana." There was no guide to the city, no official programme, no list of delegates or members, and no daily journal: all these duly appeared after many days—the guide-book as we were leaving Madrid, the list of members after we had left the city.

It was evident that the number in attendance was vastly in excess of the provision which had been made, and that the officials were not able to cope with the demands made upon them. Accordingly, it seemed impossible to learn when or where the opening meeting of the Congress was to be held; but with six or seven thousands of members and delegates it would not be easy to go wrong, and we found ourselves on Thursday, April 23rd, in the Teatro Real, in company with a large and distinguished party of British delegates, arrayed in Court and University robes. Both this meeting and the royal reception at the palace on the following day were brilliant successes, but they have been fully reported, and no further comment is needful. As regards the subsequent general meetings no information could be obtained, but we have since learned that Professor Arthur Thomson gave an address on "The Attitude of the Medical Profession toward Anthropology," and that several other general addresses were given in the amphitheatre of the Medical School. The sectional meetings were held in the Royal Library and Museum, a modern building, containing a large collection of modern pictures: the different galleries opening into each other were used for various sectional meetings, and hence the disturbance of the constant traffic, and the attractions of the magnificent pictures on the walls, must have seriously detracted from the utility of the work done by the sections.

The secretary announced at the opening meeting that of the total number of members enrolled, 6,961, about half of these, 3,530, were Spanish; of the remaining 3,431, Great Britain was represented by 238, whilst the United States of America had 195. The communications or papers announced for the meeting was 1,681. The English-speaking party was quite a representative one, including many well-known physicians and members of their families: they had also the pleasure of the company of the Rev. Canon Duckworth and the Rev. Sir Borradaile Savory, who were members of the section of hygiene.

As regards the city of Madrid, it is only just to remark that its buildings are quite metropolitan in character; the streets are wide, and the open spaces large: there is, however, one defect which could not escape observation: the rough granitic pitching ill-kept, and with frequent holes, is not worthy of a royal city of historic fame; it might have been supposed that the roads had been laid down by Phillip II., and had not received attention since his time. Madrid is above all things a city of picture galleries; the old masters of the Prado, and the modern tragedies of the Bibliotheca are collections of which any city might well be proud.

The pictures of Velasquez form a unique collection, but the Spanish Murillo is to be seen to better advantage in Seville, and the work of many of the old masters can be better seen in Florence, Munich, and other cities. Madrid is on the whole less attractive than most other large continental cities in museums and churches: its climate is not genial, although its elevation should make it worthy of the reputation of a European health resort: from the archæological standpoint it has no interest whatever.

Much has been said of the cherished national institution, the bull-fight: some of its critics write without knowledge, others fail to enter into its spirit from the Spanish point of view. It is true that there is little sport in the game; the matadors run very little risk, and the blind-folded horses are entirely at the mercy of the enemy: it must not be forgotten that the bulls and the horses are there to be killed, that the bulls are fine Andalusian animals bred for the purpose, and that the horses are worn out

and useless. It is not a humane kind of death either for horse or bull, but the rules of the game are rigidly observed, and the animals are not tortured indefinitely. And yet to the English mind such exhibitions cannot but appear to be brutalising in their tendency, and it is surprising they should excite such wild enthusiasm even in a highly excitable race. The fêtes are held in every large city of Spain; they are of great antiquity, dating from the time of the Moors, or even a long way further back to the time of the amphitheatres of the Roman Empire; they are patronised by all classes of society from the highest to the lowest, and it would be as impossible a task to suppress them as to prevent an English schoolboy from playing cricket in the summer term.

A visit to the far-famed imperial city of Tolédo is inevitable to anyone so near to it as Madrid, and "very solemn and impressive does Tolédo seem to the arriving traveller, with its grey old bridge, its massive walls, its solid-looking buildings rising one above another crowned by the Alcazar, its feet for ever washed by the Tagus, which here makes a loop round the ancient city. Rocky and sandy hills of indescribably barren aspect rise on the other side of the drab-coloured waters, and nowhere is this picture of decay and death relieved by a warmer tint. The intense gloom of this once mighty town fascinated me strangely, and I lingered there day after day till its stately air of majestic resignation was indelibly fixed on my mind. It is a wonderful place. I grew at last to think it the most wonderful place I had ever seen"[1]. The beauties of the Cathedral, with its five naves and their eighty-eight columns, the grand Moorish gateway, called Puertâ del Sol, the Moorish mosque, now called the Church of El Christo de la Luz, and the many historic reminiscences of the Moorish occupation cannot here be described.

Another day excursion from Madrid is that to the Escorial, where the kings and queens of Spain find their last resting-place, in the Panteon, an octagonal chamber immediately underneath the high altar of the church above, and where everything reminds one of Phillip II., our own Queen Mary's husband.

[1] Mrs. Main, *Cities and Sights of Spain*, p. 114.

What can be said of Granada and the Alhambra, which has not been said many times before? It is a weary pilgrimage to Seville, Cordova, Granada, and the other cities of the South; but no one can pretend to a good knowledge of Spain who has only visited the bare granitic wastes of the North. Trains are infrequent and slow, and the way is long, but the recompense is great. Hare (*Wanderings in Spain*) remarks: "There is nothing more interesting than the awakening in a place new, and yet so old, so well-known from stories and pictures of earliest childhood, as Granada. It was like an awakening in Paradise." The whole Alhambra teams with reminiscences of the romantic history of the Moors, terminating with the surrender of the city by Boabdil, in 1492, when the long duel between Spaniard and Moor came finally to an end, and the defeat of the Goths was avenged; in this year also occurred the discovery of America, and Spain first took a leading place amongst the Powers of Europe.

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**Winsley Sanatorium: Laying the Foundation Stone.**—The laying of the Foundation Stone of this Sanatorium by Lady Dickson-Poynder marks the progress of the scheme, and the large and representative company which assembled on the site to do honour to the occasion and to Lady Dickson-Poynder shows how widespread is the interest in this prospective Home.

The CHAIRMAN (Sir John Dickson-Poynder) having given a short and interesting account of the work,

Dr. WEATHERLY, the Chairman of the Executive Committee, stated that on March 26th, 1903, they had collected altogether £9,758—paid and promised. Of that they had spent on the purchase of the land, on levelling the site, on planting trees, making roadways, legal expenses, office expenses, advertising and printing, and holding public meetings throughout the three counties, £3,918, leaving a balance of £5,840. Since March 26th up to the 3rd of June they had been paid or promised £1,000, increasing the balance to £6,840. The contract for the present building was £6,877; the furniture and electric light would cost about £1,450, and if they built a separate laundry, which was almost a *sine quâ non*, it would cost another £1,000

which brought the sum required for the building as at present arranged to £9,327, so that for the present undertaking they required a further sum of £2,587. It was proposed to provide their beds as they obtained funds, instead of waiting for funds for a big extension, in blocks, each of which would receive about ten beds and cost about £1,400. So to complete the whole scheme and give accommodation for sixty patients they wanted about £9,000. With regard to the beds in the building now commenced, they would try to keep one-third of them for free nominations, and these would be available for persons at a charge not exceeding 10s. a week. In that building they hoped to have six such beds, which meant that the Committee would have to provide, to maintain all the patients in that building, not more than £250 a year in subscriptions from the three counties —Somerset, Wilts, and Gloucestershire—and the City of Bristol. Beds would be maintained as follows: By the City of Bristol, 4; Bath Corporation, 2; Swindon Corporation, 2; Gloucester Corporation, 1; Messrs. Fry and Sons, Bristol, 1; Mr. J. B. Clark, of Street, 1; Mr. and Mrs. W. S. Clark, of Street, 1. The G.W.R. employeés at Swindon had already paid for the building of a bed, and hoped to maintain it; the Dean Testimonial Fund at Swindon had provided for the building of a bed, and meant to maintain one, and the Committee controlling the memorial to Mr. Dean were providing a liege-halle, or rest pavilion, in which four or five patients could lie down. Trowbridge was also collecting subscriptions for the purpose of building and maintaining a bed, which meant that fifteen beds would be endowed.

Lady Dickson-Poynder, amid applause, received a beautiful bouquet from Miss Watson Williams, daughter of the hon. general treasurer (Dr. Watson Williams, of Clifton), and granddaughter of the late Dr. Long Fox, who was practically the founder of this branch of the association.

The short religious service then commenced, Prebendary Boyd (Rector of Bath), saying prayers, the responses being by the Abbey choir, who sung the following hymn, which had been especially written for the occasion by Mr. Fred E. Weatherly.

Be with us Father, where we meet,
  Bless what we do this day!
Our work begun—that work complete
  And guide it in Thy way.

O, keep the sufferers in Thy care
  Who seek this sheltering place;
O, heal them with Thy bounteous air,
  Refresh them with Thy grace.

O, bless the loving hands that tend
  The busy brains that plan
To use the mercies Thou dost send
  For help of suffering man.

And bless us also, God most high,
  And keep us in Thy ken;
Be with us now, and when we die
  O, Lord, be with us then!

Lady Dickson-Poynder then laid the stone. Her ladyship used for the spreading of the mortar a beautiful silver trowel with ivory handle, which was handed to her by Dr. Weatherly.

The Bishop of Bristol then offered an appropriate prayer and pronounced the benediction.

Dr. A. Hillier, having spoken of the suitable nature of the site for the Sanatorium and the loveliness of the surrounding scenery, congratulated most heartily those who were associated with the movement upon the work that had been done so far. He had no doubt that in the future they would have equal success, and carry the scheme to a successful termination. They were to be congratulated, not only as representing the three counties named, but because they were setting an example to the whole country. In Germany there were at present 7,000 beds at the disposal of the working classes who might be suffering from consumption; yet in England and Wales there were not at present in proper sanatoria more than as many hundreds of beds for that purpose. They were, therefore, in that matter doing a great and much needed national work.

We gladly offer our cordial congratulations to the Executive Committee on their increased activity, and on the increasing interest manifested in this scheme, which promises to be a success in the near future. Meanwhile, it is clear that the funds are not adequate for the work which has to be done,

and that the Committee can scarcely be expected to make up the deficiency without greatly increased assistance from those who are convinced of the urgent necessity for the work.

## Notes on Preparations for the Sick.

**Lofotol**: the new Sparkling Cod Liver Oil.—SOUTHALL BROS. & BARCLAY, Birmingham.—Cod liver oil has been decidedly unpopular of late, and we think it must be very much less used than formerly.

Possibly the introduction of a new and improved preparation may reinstate the drug in its former position as the one thing needful in all tubercular diseases, more especially as it has always been looked upon as a food; and now that feeding is everything, cod liver oil should be a most useful adjunct to the fatty foods taken at meals. The various emulsions and malt combinations have to a very large extent taken the place of the crude oil, but it must be remembered that the dose of the oil when given in these combinations must be very much less than was commonly the rule some ten or fifteen years ago.

This new combination of cod liver oil with carbonic acid gas seems likely to mark a new era in the therapeutics of oleum morrhuæ. The peculiar advantages of Lofotol are: (1) Rapidity of digestion, owing to the stimulating effect of carbonic acid; (2) Ease of digestion, owing to the disintegration of the oil in the stomach caused by the entangled molecules of gas; (3) Freedom from tendency to oxidization and rancidity. The oil is always sweet, and contains little or no free fat acid; (4) Great palatability, owing to the pleasantly sharp and sparkling taste given to the oil by the gas.

From a somewhat limited experience of the combination, we are inclined to think that the proprietors have not claimed too much for it, and that if cod liver oil be needed, this is the variety which is likely to be most acceptable and most useful to the patient.

**Plasmon; Beef Plasmon; Plasmon Diabetic Biscuits.**—INTERNATIONAL PLASMON LTD., London.—The plasmon milk product was mentioned in our *Journal* for June, 1900 (vol. xviii., p. 173). Since that time many combinations have been introduced, and of these the Beef Plasmon, the Plasmon Arrowroot, and the Plasmon Diabetic Biscuits have recently been forwarded. Of the plasmon itself it is needless to say that it is of the highest nutritive value, tasteless, odourless, and easily digested.

Examination of the Beef Plasmon shows the presence of a large amount of proteid, including albumins and globulins, with only a mere trace of salt.

The Diabetic Biscuits are made both plain and with saccharine. They contain no starch and no sugar, but give well-marked proteid reactions. These biscuits are made up of plasmon, pure almond flour, and pure gluten flour. They contain 43 per cent. of assimilable proteid and 5 per cent. of fat. They are useful, not only in cases of diabetes, but in the treatment of obesity.

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**Casumen**: Prideaux's pure Milk Proteid.—PURE CASEIN AND LIFE FOOD CO. LIMITED, Motcombe, Dorsetshire.

This powder, soluble in water, is separated from milk by a special process, which gives the milk proteid in a pure and soluble state. Mr. Oliver Davis's analysis (University College, Bristol, Laboratory) shows it to be an almost completely soluble proteid: it contains no starch and no sugar. The *Lancet* analysis shows it to contain (when dry) the very large proportion of 93 per cent. of pure proteid. Its food value is therefore very high. It may be added to almost every variety of liquid food, thereby increasing immensely the nutritive value of the fluid; and it is sold in a variety of combinations with arrowroot, macaroni, cocoa, chocolate, and baking powder.

Casumen bread may easily be obtained, also casumen biscuits, and all kinds of pastry, by mixing one or two ounces of dry casumen with a pound of flour.

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**Hovis Food.**—Hovis Flour Mills, Macclesfield.—Samples of two foods have been forwarded by the Hovis Bread Flour Company:—

No. 1. Infant's food; No. 2. For infants and invalids.

An analysis, made in the University College, Bristol, Laboratory by Mr. Oliver Davis, B.Sc., informs us that No. 1 food consists of proteid, maltose, and dextrine, very rich in phosphates, but with no starch; No. 2 agrees with No. 1 in qualitative composition, but it contains a certain amount of starch.

The detailed analysis issued by the Company is as follows:—

| | NO. 1. | NO. 2. |
|---|---|---|
| Maltose ... ... ... ... ... | 62.41 | 67.49 |
| Dextrine, etc. ... ... ... ... ... | 23.98 | 14.94 |
| Cane sugar ... ... ... ... ... | none | none |
| Nitrogenous compounds ... ... ... | 7.74 | 5.78 |
| Farinaceous matter ... ... ... ... | none | 7.50 |
| Starch cellulose ... ... ... ... | 0.10 | 0.04 |
| Fat ... ... ... ... ... ... | 0.20 | 0.10 |
| Mineral matter (including phosphates) ... | 1.82 | 1.70 |
| Moisture ... ... ... ... ... | 3.75 | 2.45 |
| | 100.00 | 100.00 |
| Soluble in *cold* water ... ... ... | 95.30 | 90.80 |

The small amount of matter insoluble in cold water is freely digestible, leaving the minutest trace (as shown in the above analysis) of cellulose in a soft, light condition.

These foods are well devised, and will doubtless often facilitate the solution of the difficult problems associated with the feeding of infants and invalids.

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**Vitalia Meat Juice** (Liq. Hæmoglobin Co., c ext. Carnis).—THE VITALIA COMPANY, Blackfriars, London, S.E.—We made some comments on this meat juice in our December number of 1897 (vol. xv., p. 361). Mr. Oliver Davis (University College Laboratory) has recently examined a sample, and he reports that it contains a large amount of proteids, including albumins, globulins, and hæmoglobin; it contains also various extractives, and sodium chloride. It is a palatable preparation of hæmoglobin in combination with Australian extract of meat: its full designation indicates its composition and its nutritive value. It rarely fails to give satisfactory results clinically, and if the colour be an objection to its use, this difficulty may be surmounted by presenting it to the patient in a red-coloured glass.

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**Vibrona.**—FLETCHER, FLETCHER & Co., London.—This preparation of cinchona was just mentioned in our *Journal* of December, 1895 (vol. xiii., p. 310), and it fully deserves all the reputation it has since received. It is described by the proprietors as a combination of hydrobromic extract of cinchona bark, manufactured under Fletcher's patent of 1894, with a red wine, each wineglassful being equivalent to five grains of cinchona bark. It is an elegant preparation of the bark, which has been found to be of much service as a general tonic, and, in ordinary doses, is not likely to give rise to the symptoms of cinchonism, or to leave any evil after-effects. Dr. B. H. Paul certifies that the wine is what it professes to be, and that it is carefully standardised under his supervision. It claims to be an ideal tonic wine, and experience fully justifies this claim.

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**Byno-Cascada.**—ALLEN & HANBURYS, London.—Of the various preparations of bynin, this is perhaps likely to be one of the most useful. Being a combination of malt-extract with cascara sagrada and rhamnus frangula, it is something more than a stimulant to peristaltic action. It is called "an ideal tonic laxative," and we think that the results quite justify this appellation. The bynin is an excellent vehicle for the aperient bitter extracts, and the combination must have a good effect on the patient in all cases of portal congestion and atony of the alimentary canal. The treatment of habitual constipation has been much facilitated by the advent of the now familiar cascara, and we have found this preparation to be one of the most efficient of them all.

# The Library of the Bristol Medico-Chirurgical Society.

*The following donations have been received since the publication of the List in March :*

*May 30th, 1903.*

J. Paul Bush, C.M.G. (1) ... ... ... ... ... 1 volume.
L. M. Griffiths (2) ... ... ... ... ... ... ... 6 volumes.
The Laryngological Society of London (3) ... ... 1 volume.
The Scholastic Trading Co. (4) ... ... ... ... 2 volumes.
R. Shingleton Smith, M.D. (5) ... ... ... ... 1 volume.
James Swain, M.D. (6) ... ... ... ... ... ... 1 volume.

## FORTY-EIGHTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

**Allingham, H. W.** *Operative Surgery* ... ... ... ... ... ... ... ... 1903
**Benham, P. Brouardel and F. L.** *Death and Sudden Death* ... 2nd Ed. 1902
**Bridge, N.** ... ... *Tuberculosis* ... ... ... ... ... ... ... ... ... 1903
**Brouardel and F. L. Benham, P.** *Death and Sudden Death* ... 2nd Ed. 1902
**Burghard, W. W. Cheyne and F. F.** *A Manual of Surgical Treatment.* Part VI. Section 2 ... ... ... ... ... ... 1903
**Calvert, J.** ... ... *Practical Pharmacy and Prescribing* ... ... 2nd Ed. 1903
**Campbell, K.** ... *Refraction of the Eye* ... ... ... ... ... ... ... 1903
**Cheyne and F. F. Burghard, W. W.** *A Manual of Surgical Treatment* Part VI. Section 2 ... ... ... ... ... ... 1903
**Clemow, F. G.** ... *The Geography of Disease* ... ... ... ... ... ... 1903
**D'Estrées, D.** ... *Thirty-five years at Contrexéville.* (Tr. by A. C. Grylls) 1903
**Dowse, T. S.** ... *The Pocket Therapist* ... ... ... ... ... 3rd Ed. 1903
**Eccles, W. McA.**... *The Imperfectly Descended Testis* ... ... ... ... ... 1903
**Fagge and P. H. Pye-Smith, C. H.** *A Text-book of Medicine.* 2 vols. 4th Ed. 1901-02
**Fox, E. L.** ... ... *Only a Doctor* ... ... ... ... ... ... ... ... (2) 1902
*France, Index médical des principales Stations Thermales de* ... ... ... (1) 1903

**Froussard, [—] ...** *Muco-Membranous Colitis* ... ... ... ... ... ... 1903
**Grünwald, L. ...** *Atlas and Epitome of Diseases of the Mouth, Pharynx and Nose.* (Translated. Ed. by J. E. Newcomb) ... ... ... ... ... ... ... 2nd Ed. 1903
**Haines, F. Peterson and W. S.** [Eds.] *A Text-book of Legal Medicine and Toxicology.* Vol. I. ... ... ... ... ... ... 1903
**Jenner, G. C. ...** *Evidence at large as laid before the House of Commons respecting Vaccine Inoculation* ... ... ... ... 1805
**Kenwood, H. R....** *Public Health Laboratory Work* ... ... ... 3rd Ed. 1903
**Lawson, G. ... ...** *Diseases and Injuries of the Eye.* (Ed. by A. Lawson) 6th Ed. 1903
*Library of the Royal College of Physicians of London, Accessions to the...* 1901-02
**Macleod, J. M. H.** *Handbook of the Pathology of the Skin...* ... ... ... 1903
**Manson, P.... ...** *Tropical Diseases* ... ... ... ... ... [3rd Ed.] 1903
**Molière, [J. P. B.]** *Le Malade Imaginaire.* (With Notes by A. E. Ragon) (2) New Ed. 1889
**Morris, M. ... ...** *Diseases of the Skin...* ... ... ... New [3rd] Ed. [1903]
**Noorden, C. von...** *Disorders of Metabolism and Nutrition.* (Ed. by Boardman Reed.) Parts I.—III. ... ... ... ... 1903
**Norström, G. ...** *Chronic Headache and its Treatment by Massage* ... ... 1902
,, *The Manual Treatment of Diseases of Women* ... ... 1903
**Pawlow, J. P. ...** *The Work of the Digestive Glands.* (Tr. by W. H. Thompson) ... ... ... ... ... ... ... ... 1902
**Peterson and W. S. Haines, F.** [Eds.] *A Text-book of Legal Medicine and Toxicology.* Vol. I. ... ... ... ... ... 1903
**Proust, R. ... ...** *Manuel de la Prostatectomie perinéale pour Hypertrophie* 1903
**Pye-Smith, C. H. Fagge and P. H.** *A Text-book of Medicine.* 2 vols. 4th Ed. 1901-02
**Richer, P. ... ...** *L'Art et la Médecine* ... ... ... ... ... ... ... [N.D.]
**Ross, R. ... ...** *Report on Malaria at Ismailia and Suez* ... ... ... 1903
**Sajous, C. E. de M.** *The Internal Secretions and the Principles of Medicine* Vol. I. 1903
**Scheube, B.... ...** *The Diseases of Warm Countries.* (Tr. by Pauline Falcke. Ed. by J. Cantlie) ... ... 2nd Ed. 1903
**Sobotta, J. ... ...** *Atlas and Epitome of Human Histology* (Translated. Ed. by G. C. Huber)... ... ... ... ... ... 1903
**Tunstall, F. J. Warwick and A. C.** *"First Aid" to the Injured and Sick.* 3rd Ed. 1903
**Wallace, J. S. ...** *The Physiology of Mastication* ... ... ... ... ... 1903
**Warwick and A. C. Tunstall, F. J.** *"First Aid" to the Injured and Sick.* 3rd Ed. 190
**Williams, J. W....** *Obstetrics* ... ... ... ... ... ... ... ... ... ... 1903

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Alienist and Neurologist, The... ... ... ... ... ... ... Vol. XXIII. 1902
American Dermatological Association, Transactions of the, for 1902 ... 1903
American Gynecology ... ... ... ... ... ... ... ... ... Vol. I. 1902

American Journal of Medical Sciences, The ... ... (5) Vol. CXXIII. 1902
American Journal of Obstetrics, The ... ... ... ... ... Vol. XLVI. 1902
American Laryngological Association, Transactions of the ... ... ... 1902
American Medicine ... ... ... ... ... ... ... ... ... ... Vol. IV. 1902
American Ophthalmological Association, Transactions of the Vol. IX. Part 3 1902
American Surgical Association, Transactions of the... ... ...Vol. XX. 1902
American Year-Book of Medicine and Surgery ... ... ... ... ... 1901-03
Archives of Pediatrics ... ... ... ... ... ... ... ... Vol. XIX. 1902
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Australian Medical Gazette ... ... ... ... ... Vols. XX., XXI. 1901-02
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Boston Medical and Surgical Journal, The... ... ... Vol. CXLVII. 1902
Bristol Medico-Chirurgical Journal, The ... ... ... ... ...Vol. XX. 1902
British Journal of Dermatology, The ... ... ... ... ... Vol. XIV. 1902
Brooklyn Medical Journal, The ... ... ... ... ... ... Vol XVI. 1902
Bulletin de l'Académie de Médecine ... ... Tom. XLVII., XLVIII. 1902
Bulletin de l'Académie royale de Médecine de Belgique ... Tome XVI. 1902
Bulletin de l'Institut international de Bibliographie ... ... ... 1899-1901
Bulletin of the Association of Medical Librarians ... ... ... Vol. I. 1902
Catalogue of Books for 1902, The English ... ... ... ... ... ... ... 1903
Centralblatt für Chirurgie ... ... ... ... ... ... ... ... ... ... 1902
Centralblatt für Gynäkologie ... ... ... ... ... ... ... ... ... ... 1902
China Medical Missionary Journal, The ... ... ... ... Vol. XVI. 1902
Cincinnati Lancet-Clinic, The ... ... ... ... ... Vol. LXXXVIII. 1902
Epidemiological Society of London, Transactions of the... Vol. XXI. 1902
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Gazette des Hôpitaux ... ... ... ... ... ... ... ... ... ... ... 1902
Gazette des Hôpitaux de Toulouse ... ... ... ... ... ... ... ... 1902
Gazette hebdomadaire des Sciences médicales de Bordeaux Tome XXIII. 1902
Gazette médicale de Paris ... ... ... ... ... ... ... ... ... ... 1902
Grèce médicale, La ... ... ... ... ... ... ... ... ... ... Vol. IV. 1902
Hospitals—
Boston City Hospital, Medical and Surgical Reports of the. (6) 13th series 1902
Middlesex Hospital Reports for 1901, The ... ... ... ... ... 1903
Indian Medical Gazette, The ... ... ... ... ... ... Vol. XXXVII. 1902
Intercolonial Medical Journal of Australasia ... ... ... Vol. VII. 1902
International Medical Magazine, The ... ... ... ... ... ... Vol. XI. 1902
Johns Hopkins Hospital Bulletin ... ... ... ... ... ... Vol. XIII. 1902
Journal d' Hygiène ... ... ... ... ... ... ... ... ... ... ... 1901-02
Journal of Balneology and Climatology, The ... ... ... ... Vol. VI. 1902
Journal of Hygiene, The... ... ... ... ... ... ... ... ... Vol. II. 1902
Journal of Medical Research, The ... ... ... ... ... Vol. VIII. 1902
Journal of Mental Pathology, The ... ... ... ... ... ... Vol. II. 1902
Journal of Mental Science, The ... ... ... ... ... Vol. XLVIII. 1902
Journal of Nervous and Mental Disease, The ... ... ... Vol. XXIX. 1902
Journal of Tropical Medicine, The ... ... ... ... ... ... Vol. V. 1902
Journal of the American Medical Association, The ... ...Vol. XXXIX. 1902

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| Laboratory Reports of the Royal College of Physicians of Edinburgh. | Vol. VIII. | 1903 |
| Laryngological Society of London, Proceedings of the ... | (3) Vol. IX. | 1902 |
| Library Association Year-Book, The ... ... ... ... ... ... ... ... ... .. | | 1903 |
| Medical Age, The ... ... ... ... ... ... ... ... ... | Vol. XX. | 1902 |
| Medical Annual, The... ... .. ... ... ... ... ... ... ... ... ... ... | | 1903 |
| Medical News, The ... ... ... ... ... ... ... ... ... | Vol. LXXXI. | 1902 |
| Medical Review, The ... ... .. ... ... ... ... ... ... | Vol. V. | 1902 |
| Medical Review of Reviews, The ... ... ... ... ... ... | Vol. VIII. | 1902 |
| Merck's Annual Report for 1902 ... ... ... ... ... ... ... ... ... | | 1903 |
| Mercy and Truth ... ... ... ... ... ... ... ... ... ... | Vol. VI. | 1902 |
| Monthly Cyclopædia of Practical Medicine, The ... ... ... | Vol. V. | 1902 |
| Montreal Medical Journal, The ... ... ... ... ... ... | Vol. XXXI. | [1902] |
| New York Medical Journal, The ... ... ... ... ... ... | Vol. LXXVI. | 1902 |
| New Zealand Medical Journal, The ... ... ... ... ... | N.S., Vol. I. | 1901 |
| Occidental Medical Times ... ... ... ... ... ... ... | Vol. XVI. | 1902 |
| Ohio State Medical Society, Transactions of the ... ... ... ... ... | | 1902 |
| Philadelphia County Medical Society, Proceedings of the | Vol. XXII. | 1901 |
| Philadelphia Medical Journal, The ... ... ... ... ... ... | Vol. X. | 1902 |
| Polyclinic, The ... ... ... ... ... .. .. ... ... ... ... | Vol. VI. | 1902 |
| Post-Graduate, The ... ... ... ... ... ... ... ... .. | Vol. XVII. | [1902] |
| Progrès Médical, Le ... ... ... ... ... ... ... ... | Tom. XV., XVI. | 1902 |
| Progressive Medicine ... ... ... ... ... ... ... ... ... | Vol. IV. | 1902 |
| Publishers' Circular, The... ... ... ... | (4) Vols. LXXVI., LXXVII. | 1902 |
| Revue d'Obstétricale et Gynécologie ... ... ... ... | [Vol. XVIII.] | 1902 |
| Revue générale d'Ophtalmologie ... ... ... ... ... ... | Tome XXI. | 1902 |
| Revue hebdomadaire de Laryngologie, d'Otologie et de Rhinologie. | Tome XXII. | 1902 |
| St. Louis Medical and Surgical Journal, The | Vols. LXXXII., LXXXIII. | 1902 |
| Sanitary Record, The ... ... ... ... ... ... ... ... | Vol. XXIX. | 1902 |
| Sei-I-Kwai Medical Journal, The ... ... ... ... ... ... | Vol. XXI. | 1902 |
| Therapeutic Gazette, The ... ... ... ... ... ... ... | Vol. XXVI. | 1902 |
| Weiner klinische Wochenschrift ... ... ... ... ... ... ... ... ... | | 1902 |

# MEETINGS OF SOCIETIES.

## Bristol Medico-Chirurgical Society.

*March 11th, 1903.*

Mr. G. Munro Smith, President, in the Chair.

Dr. J. Odery Symes showed **microscopical specimens of the blood obtained from a case of quartan malaria** in Cyprus.

Dr NEWMAN NEILD showed a specimen of **tumour of the pituitary body**. At the *post-mortem* the head had been opened first. The meninges were normal. The convolutions of the cerebral cortex were rather flattened. The tumour, the size of a walnut, was seen on raising the frontal lobes. The greater portion of it lay above, and a small portion within, the sella turcica. The latter was considerably enlarged. The posterior clinoid processes were displaced backwards and slightly outwards, and the left cavernous sinus pressed upon. The tumour had grown backwards beneath the pons and forward beneath the cerebral peduncles and had caused an abnormal separation of the carotid arteries. No trace of the pedicle of the pituitary body was found, although a complete segittal section of the brain had been made passing through the apex of the infundibulum. The substance of the tumour was softer than brain tissue and hemorrhagic in parts, the surface being minutely mammillated. The other organs of the body were normal, the thyroid being especially examined. There were no signs of acromegaly. Microscopically, sections at first sight resembled carcinoma or sarcoma, but appeared to be adenoma. The tumour showed no tendency to invade surrounding tissues. A small portion from within the sella turcica, the size of a small pea, showed a few small cysts containing colloid material. Dr. SYMES stated that the patient from whom the above specimen had been obtained, was a child of seven years of age. The child had been well until August 4th. Then pain in the head and left eyebrow had developed, and the child had become drowsy and irritable, and had had occasional vomiting. Then ptosis of the left upper eyelid had become noticeable, and, later, the external rectus muscle of that eye became paralysed. There was no optic neuritis. The pulse had been usually slow. On October 17th the urine had contained much albumen. Complete left ocular paralysis then developed. On October 7th the patient had died suddenly. Absence of optic neuritis had been noted in other cases of the kind. The tumour was larger on the left side than on the right. The left knee-jerk had been exaggerated.—Dr. NEWMAN NEILD suggested that the spreading of the tumour backwards over the pons caused the ocular paralysis, rather than pressure on the cavernous sinus.—Dr. SHINGLETON SMITH stated that a steatoma of the pituitary body had been shown to the Society some years previously. Symptoms had only been manifest shortly before death, although the tumour was probably of many years growth.—Mr. ROGER WILLIAMS alluded to Marie's discovery of a relationship between pituitary heterotrophic enlargements and acromegaly. It was curious to find a tendency to the production of thyroid-like tumours at each end of the notochord. Pathologists had too readily adopted the view that certain heterotrophic tumours were teratomata. In the pituitary region such tumours were due to the up-growth of the pouch of Rathké through the

tissues forming the base of the skull. With this up-growth matricular elements were carried and accounted for the heterotrophic elements found in the tumours. Brestlau and Rindfleisch had reported such a tumour which had one segment projecting from the mouth and another into the cranial cavity. It had a cystic structure and contained bone, etc., and had been said to contain intestinal elements, and to be of a fœtal nature. It had more probably originated in the way just described.—Dr. THEODORE FISHER referred to a paper by Dr. Lloyd Andriezen, in which evidence was brought forward to show that the posterior half of the pituitary body produces an internal secretion, which plays an important part in the nutrition of the central nervous system. A few cases the speaker had seen recorded did not seem to lend support to this view, but there had been one case at the Bristol Royal Infirmary, in which death had occurred in the way described by Andriezen, and the only lesion found after death had been a gumma of the pituitary body invading the floor of the third ventricle.

Dr. BERTRAM ROGERS showed the **liver from a case of lymphadenoma**. The glandular enlargements in various parts had been very rapid. Those in the neck had become enormous. Suppuration occurred in one gland, and subsequently there had been a diminution in size of all the other glands.—Dr. GEORGE PARKER said that the diminution in the size of the glands which occurred in these cases was only temporary. He mentioned a case in which the blood became normal once or twice a year.

Mr. G. MUNRO SMITH reported a case of **perforated duodenal ulcer** in a man of 33, for which he had successfully operated. The man had had dyspepsia for many years. The pain generally occurred two or three hours after meals and also during the night. One night, at eleven o'clock, he was seized with violent pains in the right side of the abdomen, for which he came to the Infirmary. The diagnosis rested between perforation of a duodenal ulcer and appendicitis. After a few hours the abdomen was opened, first in the lower part revealing a normal appendix, and then above exposing a perforation of a duodenal ulcer. This was closed with Lembert sutures and the peritoneum around mopped out, a gauze drain used above and a tube passed through the lower wound. Sixteen days later the patient had had an attack of intense abdominal pain, but it had soon passed off. The symptoms of duodenal ulcer which the patient had had were fairly typical. These ulcers occurred three times more frequently in men than in women. Not many cases of operation for these ulcers had been published. The first successful operation had been by Dean, in 1894. So far no symptoms of cicatricial contraction had arisen in the case described.—Dr. SHINGLETON SMITH thought it would have been very difficult to diagnose duodenal ulcer from the symptoms which had been mentioned, and asked if there had

been any history of hemorrhage from the bowel. He regarded such hemorrhage as often suggestive of the affection.—Mr. LACE said that in eleven cases of perforated gastric ulcer he had examined there had been invariably tenderness in the lower part of the abdomen. Also he had invariably noticed that after an hour or two the temperature had been raised a degree or two. In all the cases he had seen operated upon the abdomen was irrigated and apparently always with benefit, for all the eleven cases had recovered. Seven of these had been his own cases. Drainage for long periods was not necessary.

Dr. E. W. H. GROVES read a paper on **some points in the diagnosis of malignant disease of the body of the uterus,** and showed specimens.—[For this paper see p. 128].—Mr. ROGER WILLIAMS maintained that no pathologist could say from mere histological appearances of scrapings or small bits of tissue whether a uterine condition was malignant or not. In forty cases of uterine cancer one would be of the body of the uterus. Cancer of the body of the uterus was a senile affection occurring from the age of 55 upwards. It was hardly ever met with before the menopause. He considered that the name adenoma was wrongly given to some uterine changes which were hyperplastic and reparative in nature.—Dr. WALTER SWAYNE considered the treatment which Dr. Groves had adopted had been perfectly correct. In his view, in any case in which after curetting a suspicion of malignant disease was raised by microscopical examination, and a rapid recurrence of the clinical symptoms occurred, the case should be looked upon as one of malignant disease. He mentioned several cases of his own, especially two, in which malignant disease developed in the uteri of patients already affected with fibroids. In both these the clinical symptoms recurred almost at once, whereas in a uterus with fibroids, where curetting had been done for the relief of hemorrhage, the symptoms were relieved, sometimes for two or three years. He regarded the early onset of pain in these cases as a most important feature. He was accustomed to place reliance for diagnostic purposes more on clinical symptoms and physical signs than on microscopical evidence, even if the latter was negative. He described the case of a woman, aged 57, whose uterus he explored and curetted for hemorrhage; benign adenoma or hyperplasia of the endometrium was found. This was evidenced by the naked eye appearance and confirmed by the microscope. The hemorrhage recurred within six weeks, and three months later he had found on a second exploration that the growth was more marked than before and left a ragged surface on removal. He had removed the uterus, which proved to be the seat of malignant disease. He considered that the complication with fibroids and polypus added greatly to the difficulties of diagnosis in Dr. Groves's case, and mentioned a case of his own in which, after many operations for recurrent polypus, the uterus was found to

be the seat of sarcoma. He alluded to senile atrophic endometritis as being easily mistaken for malignant disease; but the important point to remember was that these simple affections, as a general rule, were cured by curetting, at any rate for a considerable time; malignant disease, on the other hand, rapidly recurs, even if relief was obtained for a few weeks.—Dr. THEODORE FISHER referred to the pain which had been mentioned in connection with carcinoma of the uterus, and also to the muscular hypertrophy which had been described. He said that the amount of hypertrophy of the muscular tissue of hollow viscera which was produced by the slower growing forms of carcinoma was very remarkable. At one time he thought the hypertrophy to be probably due to muscular contractions set up with a view to the expulsion of the growth. Having, however, seen very great muscular hypertrophy set up by a secondary growth in the diaphragm, he now thought that theory of the causation of the increase of muscular tissue improbable. But although the explanation of the hypertrophy was obscure, he thought that the pain of carcinomata in hollow viscera was probably largely due to contractions of this muscular tissue during its growth.

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*April 8th, 1903.*

Mr. G. MUNRO SMITH, President, in the Chair.

Dr. WALTER C. SWAYNE showed a **placenta prævia with velamentous insertion of the cord.** The case from which the specimen was obtained had been one of complete placenta prævia, and had been treated by dilatation of the os and version. When the os was being dilated a small portion of placental tissue came away, and this on subsequent examination was found to be a succenturiate placenta. The association of a placenta prævia with velamentous insertion of the cord and the existence of a placenta succenturiata was remarkable.

Mr. H. F. MOLE read notes on **two unusual cases of death from being run over.** The first case was that of a boy of 16, who had been run over as a result of a bicycle accident, and the wheel of the vehicle which inflicted the injury appeared to have passed over the right shoulder and upper part of the chest. Emphysema was very marked, so that the ribs could not be felt, and the emphysema could be seen to be rapidly spreading to the head and other parts. Cyanosis increased quickly, and death rapidly followed. At the autopsy six ribs were found to have been broken, but the parietal pleura was not torn. There was a small rent of the anterior border of the right lung. **The right bronchus had been completely torn across** and separated from the lung. In the second case the

injury was chiefly in the right groin, and a peculiar bluish-coloured swelling rapidly formed precisely in the position where usually the swelling is seen in a case of extravasation of the urine in the scrotal, pubic and iliac regions. Anæmia soon became profound, and death was rapid. At the autopsy **the external iliac artery was found completely torn across** and also the abdominal muscles overlying it.—Mr. ROGER WILLIAMS alluded to a case in which artificial respiration had been used for a man who had ceased breathing under chloroform. The patient rallied, but subsequently had hæmoptysis, and in two days died. The autopsy showed that a lung and even the pericardium, had been ruptured by the violent pressure on the thorax during the performance of the artificial respiration. Another peculiar chest injury he had seen was that of a patient who had been stabbed in the heart region, and the heart had been wounded without the pericardium being punctured; apparently the knife had been ensheathed by the pericardium when the heart was wounded. The patient died in a few days from violent hemorrhage from the internal mammary artery which had also been wounded.

Dr. A. B. PROWSE read notes on a case of **sudden death in a child from a rare cause**, and showed a specimen obtained from the case. The patient, a lad of five years of age, had been admitted to the Bristol Royal Infirmary, suffering from somewhat indefinite symptoms. He had had a fit before admission. He had no marked dyspnœa. The tonsils were rather large. After a week or two some stiffness of the neck developed, and some of the cervical glands enlarged in the upper part of the neck. One day, suddenly and without warning, blood poured out from the mouth and nose. Tracheotomy was performed as suffocation seemed imminent, but in a few minutes the patient died. A small abscess was found *post-mortem* in one side of the neck near the lateral wall of the pharynx, and this had opened into the pharynx. There was also a small ruptured aneurysm of the internal carotid artery just before it passed into the temporal bone; apparently the aneurism had arisen from softening of the arterial wall through the suppuration in its neighbourhood. No other vascular lesions had been discovered.

Dr. W. C. SWAYNE read notes on a case (*a*) of **ovarian tumour**, and (*b*) of **uterine fibroid**. The first case was that of a nulliparous woman of 43 years of age. Three years previously the speaker had removed for her a large ovarian cyst by an operation which had proved extremely difficult owing to the presence of numerous firm adhesions. Last November he had operated again to remove a similar cyst of the other ovary. The second operation had proved even more difficult than the first. The second case was that of a nulliparous woman of 29 years of age. For two years she had suffered from painful and excessive menstruation and for five months had noticed a

swelling in the hypogastrium. The tumour was evidently uterine, and together with that organ was about the size of the pregnant uterus at four months. Panhysterectomy was performed. The vaginal mucous membrane around the uterus had first been divided and then the abdomen opened. The myoma screw failed to raise the uterus and tumour out of the pelvis until the peritoneal covering had been stripped off very extensively. The difficulty in getting the tumour out was due to the fact that both the Fallopian tubes were dilated and embedded in exudation and had anchored the tumour in the pelvis. There had been much collapse at the end of the operation, with a rapid pulse. Saline fluid was poured into the abdomen and this lowered the pulse rate. At the end of thirty hours the patient's condition became very bad again. Saline fluid was again poured into the abdomen after removing a stitch and passing in a tube. At the end of the second week there was a rise of temperature, which was found to be due to a collection of pus retained in the uppermost part of the vagina by adhesions between the anterior and posterior vaginal walls. Recovery ensued.—Mr. ROGER WILLIAMS stated that patients had become pregnant after the removal of such tumours on both sides. Many authorities had denied that supernumerary ovaries were ever found, but there appeared to be a few cases where their existence had been well authenticated; but the existence of accessory nodules of ovarian tissue in neighbouring parts in addition to the ovaries proper was more frequent, and possibly explained the recurrence of ovarian tumours or the occurrence of pregnancy after the removal of both ovaries.—Dr. E. H. STACK said that the last speaker's remarks reminded him of a case in which he had seen Macan operate for an abdominal swelling which had formed subsequently to the removal of both ovaries, and the tumour had proved to be due to extra-uterine pregnancy.—Mr. MUNRO SMITH asked why the hysterectomy had been begun from the vagina.—Dr. SWAYNE replied that many cases of panhysterectomy had done badly because the vagina had not been thoroughly disinfected. To effect such disinfection, the vagina had to be well swabbed with antiseptics. Having completed that proceeding in his case, and the patient being in a suitable position, he had made his first incision in the vagina. He remembered a case in which he had removed both ovaries when performing hysteropexy; subsequently the patient had regained sexual power previously lost, and had consulted him for a swelling which felt very like an ovary.

Mr. A. W. PRICHARD read notes on **three cases of perforated gastric ulcer**, in each of which he had successfully operated. The first case had been operated upon about five hours after signs of perforation. A supra-pubic drainage-tube was used and the abdomen swabbed; by the nineteenth day the patient was well. In the second case there had been pain in the right side

for two days and previous indigestion. It was not possible to say exactly when the perforation had occurred. To effect closure of the perforation the whole ulcer had had to be inverted into the stomach. Four drainage-tubes had been used, one on each flank, one above the pubes, and one through the main abdominal incision. The third case, a factory girl, aged 20, had been operated upon forty-eight hours after the onset of pain, with a distended abdomen and a pulse of 180. No one who saw the patient thought she could recover. One tube was passed from the left flank to the main incision, and another through the vagina. Saline fluid was poured into the abdomen.—Mr. R. G. P. LANSDOWN alluded to the heated discussions which had taken place with respect to the question of irrigating the peritoneal cavity in these cases. He was of opinion that no hard and fast rule could be made; that in some cases irrigation was of value, in some it would be criminal. The advantage of making the main incision rather to one side of the middle line than accurately in the middle line was referred to.—Mr. J. LACY FIRTH thought it an interesting point in the second case that it had been impossible to say from the history when the perforation had occurred. In a certain proportion of cases the symptoms at the time of perforation were not definite. He alluded to a case in which he had operated on a patient after an illness of two or three weeks, and evacuated about a couple of pints of pus which had collected between the parietal peritoneum in front and the great omentum behind, and was secondary to a perforated gastric ulcer. In two other cases he had operated for symptoms of gastric perforation, and found the perforations in these ulcers had become sealed up though there was lymph and turbid fluid in the region around. Both the cases had recovered.—Mr. LACE stated that he and his colleagues had operated on twelve cases of perforated gastric ulcer: one only of the cases had not been successful. In all the abdominal cavity had been as thoroughly irrigated as was possible.—Dr. STACK said that the most important point of the technique was free drainage and not irrigation or swabbing. The cases did best which were most freely drained.—Mr. PAUL BUSH pointed out that at the time the outcry against irrigation was first raised it was customary to use strong antiseptics for the purpose. The use of sterile non-irritating fluid for the purpose rather altered the aspect of the question.—Mr. MOLE remarked that some cases did well with mopping out only, others did as well after irrigation. Washing out was good for cases where the operation was late, or the stomach had been full at the time of operation. He considered that drainage above the pubes or through the vagina was important, and also through the left flank. In fatal cases he had seen several times a collection of pus in the left flank.—Mr. PRICHARD thought that swabbing out only was better for cases of peritonitis from intestinal lesions.

*May 20th, 1903.*

Mr. G. MUNRO SMITH, President, in the Chair.

JOHN CHIENE, C.B., LL.D., F.R.S.E., M.D., Professor of Surgery, University of Edinburgh, gave an address on Mobility. *Vide* page 97.

The PRESIDENT proposed, Mr. N. C. DOBSON seconded, and it was carried with acclamation: "That the best thanks of the Society be accorded to Professor CHIENE for his able and entertaining address."

J. LACY FIRTH.
J. PAUL BUSH (*Hon. Sec.*).

## Obituary Notices.

### WILFRED MARTIN BARCLAY, F.R.C.S. ENG.

It is with much regret that we have to record the death of Wilfred Martin Barclay, of Clifton. He died at Amberley, in Gloucestershire, of pulmonary tuberculosis, after a few months' illness. His death came rather as a surprise to most of his friends, who had not realised that his end was so near. Mr. Barclay was born in India on May 15th, 1863, and died on May 9th last, and was therefore at the time of his death only a few days short of his fortieth year. He was the youngest son of the late Deputy Surgeon-General George Barclay, of the Madras army; he was educated at Clifton College, laying there the foundation of those literary tastes which became more fully developed as years went on, and in the pursuit of which he took a keen interest and pleasure. As to his literary qualifications, Canon Ainger writes for the purposes of this notice: "He had a very marked liking and taste for good literature, especially for poetry and the drama, and a most just and proper contempt for much that passes for fine writing and profound philosophy in our day; in fact, he had a very fine and strong sense of humour, which is the best of safeguards against being taken in by the charlatans of the hour. He was in consequence one of the most charming of companions, and he leaves a blank in my Bristol life which no one can fill." Canon Ainger also adds: "During the thirteen years that I knew him he had suffered many grievous family bereavements, and lived through years of much loneliness and anxiety; and when at last he made the most congenial and happy of marriages, his friends hoped that a long future of domestic happiness lay before him, but *Deo aliter visum*."

Mr. Barclay received his professional education at the Bristol University College and the Bristol General Hospital,

and was successful in gaining several prizes during his student career. Soon after obtaining the membership of the College of Surgeons, he was elected Assistant House-Surgeon to the General Hospital, and in the year 1888 he was appointed Assistant Surgeon. At the time of this appointment the majority of the staff very strongly felt that only Fellows of the College should be eligible for honorary surgical posts, but, notwithstanding this, Mr. Barclay was elected by the Governors on the understanding that he should become a Fellow within twelve months, or resign the office. Mr. Barclay succeeded in passing both the primary and final examinations within nine months, an achievement which gained for him the esteem and goodwill of most of those who were not at first favourable to his candidature; he was elected Surgeon in 1893. His promotion was singularly rapid, as after little more than eight years, and at the early age of 38, he was Senior Surgeon to the Hospital. He was less fortunate with regard to the Medical School; for though he was for a time Demonstrator of Anatomy, he had always someone in front of him with a prior claim when a lectureship became vacant. Mr. Barclay was only an occasional contributor of papers or a speaker at our medical meetings, but he was much interested in this *Journal*, and for several years was a regular contributor to our reports on surgical progress. He was Honorary Surgeon to the Bristol Nurses' Institution, taking a keen interest in the efficient training and proper teaching of nurses, and giving for some time regular lectures to the nursing staff of the General Hospital.

Mr. Barclay was an excellent surgeon and a very good operator, unsparing in the care he gave to his patients and very careful as to detail; indeed, if he had a fault as an operator, it was over minuteness of detail with its consequent prolongation of the operation, but this was perhaps more due to modern methods than to the individual.

Mr. Barclay was most kind and cheery to those under his charge, somewhat reticent and retiring to his more superficial acquaintances, but he was a most pleasant and agreeable companion to those who knew him best: he seemed to prefer a small circle of congenial friends to the amenities of the wider social circle. He was a gentleman in the best sense—refined, high minded, cultivated, incapable of anything mean or petty, and he was intolerant of any suspicion of such things in others. He had formed for himself a high ideal of life, but was perhaps a shade over-sensitive to grievances, real or imaginary, which fall to the lot of most of us in the rough and tumble of the world.

Such was Wilfred Barclay as he appeared to the writer.

> "His life was gentle, and the elements
> So mix'd in him that Nature might stand up
> And say to all the world, 'This was a man!'"

## HENRY ORMEROD.

Henry Ormerod, M.R.C.S. Eng., 1856, L.S.A., 1857, whose decease took place at Westbury-on-Trym, on the 30th of March, at the age of 68, belonged to a family of surgeons. He was educated at the Bristol Royal Infirmary and Medical School, and very soon after qualifying he settled at Westbury. Although his capacity for work was immense, yet in the early years of his practice he had more than one attack of hæmoptysis, and it was his opinion that leading a country open-air life had been the means of warding off more pronounced symptoms of phthisis. Mr. Ormerod was eminently successful as a general practitioner, and, indeed, was one of the best all-round men who ever carried on his profession in our city. He had the capacity, too, for keeping up to the times, and, as far as clinical work was concerned, was an expert microscopist. For many years he would scarcely allow himself a day's holiday, driving about all day, and often at night, in an open vehicle, and in all kinds of weather. He loved his profession, and upon his death-bed he expressed his gratitude that he had lived the life of a doctor, and declared that, had he to choose again, that should be his life's work. Kindness, self-sacrifice, and courtesy were the leading features of his most charming character.

Some eight years ago Mr. Ormerod suffered from functional heart disturbance, accompanied with dyspepsia, which partially disabled him for a time; but he seemed to quite recover from this. For a year or more before his fatal illness—of acute pneumonia—he had gradually lost as much as two stone in weight, and he had a difficulty in walking uphill owing to painful breathlessness. This interfered with his taking any exercise, and also with gardening, which was one of his favourite pastimes. It also to a large extent prevented his pursuit of photography, which he had carried to a high pitch of perfection; indeed, Mr. Ormerod's fame as an amateur photographer was not confined to the neighbourhood in which he lived. His collection was probably one of the finest of its kind. In the Clifton Photographic Society he took the keenest interest, and was a regular attendant at its meetings.

Mr. Ormerod never paid an unnecessary visit, and always discouraged the whims and imaginary ailments of his patients; but in genuine illness no one could be more skilful or attentive, let it be a medical case or a surgical or obstetric operation; and in his well-merited reward he gained the confidence and respect of his medical brethren and patients alike. Mr. Ormerod leaves a widow and three sons, two of whom are in the medical profession and one in the Church.

## HENRY THOMAS RUDGE.

Henry Thomas Rudge died very suddenly in Pembrokeshire, where he had gone for a much-needed rest and change, on April 10th, of angina pectoris. He was the son of the late C. T. Rudge, a member of an old Gloucestershire family. After some years of work in the firm of Messrs. F. F. Fox & Co, in 1879 he entered as a student at the Bristol Medical School and the Bristol General Hospital. In 1883 he took the diplomas of M.R.C.S. and L.R.C.P. Edin., and then for a short period became Physician's Assistant at Bristol General Hospital.

An opportunity having presented itself, he commenced private practice in 1884 in Redcliff. His skill and resourcefulness and conscientious attention, together with a happy and sympathetic nature, soon gathered round him a large number of patients. By them he was immensely beloved and trusted. It is not too much to say that he was highly respected by all who ever came in contact with him in whatever capacity they did so. The genuine and unaffected outburst of sorrow in Redcliff and elsewhere among all classes was an eloquent testimony to his popularity.

To a very bright and cheery disposition he united intellectual power of a high order, and a zeal and devotion to work which his friends now feel must have told upon his constitution. He was always extraordinarily kind and considerate, especially to the poor and aged, and his delightful gift of sympathy was greatly valued by his patients and friends. He was a loyal Churchman, and as such has successively filled the offices of sidesman, churchwarden, and vestryman of the well-known church of St. Mary Redcliff.

The esteem in which he was held by his brother Freemasons was witnessed to by their presence at his funeral. Indeed, the large number of relatives, friends, and patients, of clergy, members of his own profession, and fellow-parishioners, who assembled at Redcliff Church, was a touching testimony of the place which Henry Rudge occupied in the thoughts and affections of those among whom he had lived and worked. His merry laugh, his bright presence, his thoughtful care, his wise treatment, and his constant, unaffected sympathy will be sadly missed by very many, not only of the patients who fell to his care, but of his medical friends who had the privilege of seeing something of his methodical devotion to work. He died at the early age of 51.

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## JOSEPH FURLONGE SHEKLETON, A.B., M.D.,

*Deputy Surgeon-General.*

The late Deputy Surgeon-General J. F. Shekleton, of the Indian Medical Service (Bombay), had retired for many years from military and civil life in India, but had nevertheless led a

very useful life in Clifton, where he was well-known and much respected. He died on April 15th, 1903, at his residence, 11 Victoria Square, Clifton, at the age of 82. It is therefore many years since he was educated at Trinity College, Dublin, where he graduated in both arts and medicine. He also joined the Royal College of Surgeons of Ireland, having become a Fellow in the year 1845. He entered the Army in the same year, and served with the 3rd Troop Bombay Horse Artillery in the Punjab Campaign of 1848–49, and was present during the second siege of Mooltan, including the siege and capture of the town and storming of the citadel. He was also present at the battle of Gujerat, the pursuit of the Sikh army until its final surrender at Rawil Pindi, the occupation of Attock and Peshawur, and the expulsion of the Afghan force beyond the Khyber Pass. For these services he was awarded a medal and two clasps. Subsequently, while in England on sick leave, he qualified for employment in the Assay Department of the Indian Mints, and on his return to duty was appointed Deputy Assay Master at Bombay. After a few months he was transferred to a like position in the Mint at Calcutta, where he became Assay Master, and frequently acted as Master of the Mint and Head Commissioner of Currency. He published, in *The Friend of India*, December 31st, 1868, a most valuable series of assay tables of Indian and other gold and silver coins. These tables contain a large amount of original information regarding Indian coins not previously assayed, and including those of adjoining Asiatic countries.

After his retirement in 1872, Dr. Shekleton settled at Stoke Bishop, near his old friends, Dr. H. H. Goodeve and Dr. Edward Goodeve, and there he took an active part in all parochial questions. He also took a warm interest in the welfare of the Bristol Royal Infirmary, to which he had been appointed a member of the committee at the annual meeting in 1874. After thirteen years of active and useful work as member of committee and house visitor, during which time he introduced many very important reforms and improvements, he resigned his seat at the committee table in 1887, and succeeded Mr. William Trenerry in the office of secretary. It is not yet forgotten how successfully the Institution was controlled for many years by the infusion of military discipline and system; the improvements were great and have been permanent, but in 1895, in consequence of failing health, Dr. Shekleton found it needful to resign his office, and he afterwards led a life of quiet retirement from all active duty. He will be long remembered for his assiduous devotion to the best interests of the Institution for which he laboured.

# Local Medical Notes.

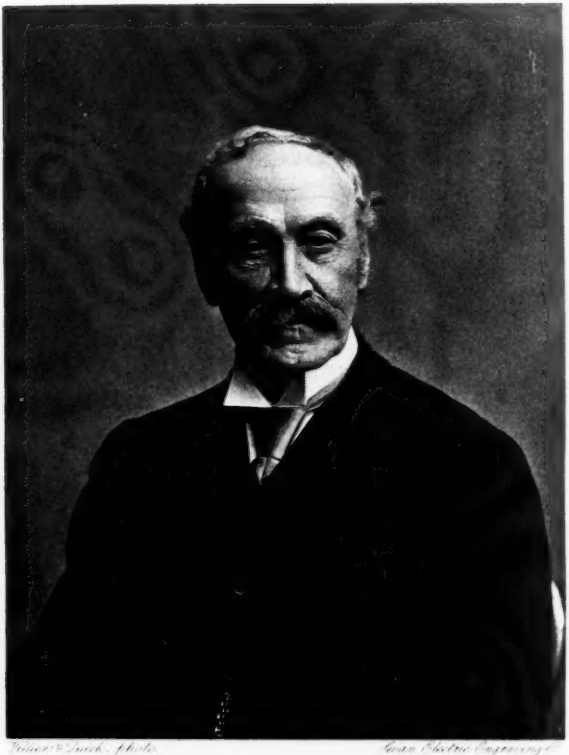
**University College, Bristol.**—Messrs. C. W. W. James and C. A. Moore have obtained the M.R.C.S. and L.R.C.P. diplomas. Messrs. W. J. H. Pinninger and A. N. Thomas have passed the Intermediate M.B. Examination of the London University.

**Bristol Royal Infirmary.**—The following appointments have recently been made: W. McCowen, M.R.C.S., L.R.C.P., Junior House Surgeon; J. H. Hawes, M.B. Dunelm, Casualty Officer; N. Conolly, M.R.C.S., L.R.C.P., Resident Obstetric Officer.

**Bristol General Hospital.**—The following appointments have recently been made: Barclay J. Baron, M.D., Hon. Consulting Surgeon to the Throat and Nose Department; J. Lacy Firth, M.D., M.S., F.R.C.S., Surgeon to the Throat and Nose Department; Hedley Hill, M.D. (Brux.), M.R.C.S., L.R.C.P., Assistant Anæsthetist; C. Corfield, M.R.C.S., L.R.C.P., Assistant House Physician; J. W. Llewellyn, M.R.C.S., L.R.C.P., Assistant House Surgeon; H. Devine, M.R.C.S., L.R.C.P., Casualty House Surgeon.

**The Bristol Dispensary** —The report for 1902 shows that the work accomplished by the medical officers is very large. Since the Institution was founded the number of patients relieved has been 515,895, and the total number of midwifery cases has been 49,335. There are eight medical officers working in the different districts, and the number of patients attended during the year 1902 was 12,551. The Committee has to record the loss during the past year of two members who have taken much interest in the Dispensary for many years,—Alderman Bartlett and Mr. Thomas Davey, who succeeded Alderman Francis J. Fry in the offices of Treasurer and Chairman. Mr. Fenwick Richards has now been appointed to these offices.

**The Queen Victoria Jubilee Convalescent Home.**—The third annual report, for 1902, shows a large increase of the number of patients admitted — 1,390, as against 1,017 in the year 1901, an increase of 37 per cent. The Home is therefore maintaining and increasing its usefulness, not only amongst the Infirmary and Hospital patients, who are admitted free, but the number of paying patients has increased from 87 to 155: these make a weekly contribution of ten shillings for their maintenance. The Governors have every reason to think that the management of the Home is what they wish it to be, and that the arrangements are much appreciated by the inmates.



Brown & Dunk, photo. Gunn Electric Engraving Co.

J. W. Swayne